



# SHORT FORM CATALOG

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**Switches • Smart Card Interconnect Devices  
High Reliability Connectors**

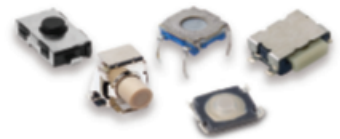
[www.ckswitches.com](http://www.ckswitches.com)

# C&K Complete Product Range

C&K offers more than 55,000 unique part numbers that are built, priced and delivered as standard catalog items.

## Tactile Switches

- Surface mount, through-hole
- Sealed
- Top, side actuation
- 100,000 to 1,000,000 cycles



## Pushbutton Switches

- Illuminated
- Sealed
- Miniature, subminiature, microminiature
- Surface mount, through-hole, bushing mount



## Key Switches

- Surface mount, through-hole
- Illuminated
- Momentary, push-on/push-off



## Detect Switches

- Surface mount, through-hole, sealed
- Pushbutton, snap-acting, lever actuation



## Navigation Switches

- Multi-direction
- Sphere, joystick, rotary, rocker, dome actuation



## Rotary Switches

- Multi-pole, multi-position
- Sealed



## DIP/Rotary DIP Switches

- 1-16 position
- Surface mount, through-hole
- Washable
- Top, side actuation



## Switchlocks (Keylock)

- Solder lug terminal
- PC thru-hole
- Wire lead
- Anti static switch
- 200 to 2,000 different key codes



# C&K Complete Product Range

With one of the world's largest sales support networks, C&K's global sales representatives and stocking distributors ensure local support and product availability.

## Toggle Switches

- Miniature, subminiature, ultraminiature
- Sealed
- Surface mount, through-hole, bushing mount



## Miniature Rocker Switches

- Snap-in, through-hole, panel mount
- Washable
- PC mount
- Illuminated options



## Power Rocker Switches

- Snap-in, panel mount
- Several body sizes and shapes
- Illuminated options



## Slide Switches

- Miniature, ultraminiature
- Surface mount, through-hole
- Process sealed switches



## Snap Acting Switches

- Miniature, subminiature
- Broad range of operating forces and lever styles
- Sealed
- Power ratings up to 30A



## Thumbwheel Switches

- Snap-in mount
- Dust lens
- 10-, 16-position



## Smart Card Interconnect Devices

- ISO, SIM, SAM cards
- Anti-piracy
- Low profile



## High-Reliability Connectors

- Microminiature & D-sub
- Board-board, board-cable, cable-cable
- Mil/Aero & Medical



|                 |              |                                  |              |
|-----------------|--------------|----------------------------------|--------------|
| Detect.....     | 5-6, 22-24   | Snap-Acting.....                 | 16, 38-39    |
| DIP.....        | 7, 25-26     | Switchlock.....                  | 17, 40       |
| KeySwitch.....  | 8, 27-28     | Tactile.....                     | 18-20, 41-47 |
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**This catalog represents a small sample of C&K part numbers. C&K has over 55,000 part numbers available. Please refer to the C&K full line catalog for a complete list of products and configurations. [www.ckswitches.com](http://www.ckswitches.com)**

*The part numbers listed are RoHS compliant.*

*Dimensions and specifications subject to change.*

## Detect Product Selection Guide

| Detect                      |  |  |  |  |  |  |
|-----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Series                      | HDT                                                                               | DS                                                                                | HDS                                                                               | HDP                                                                                | SDP                                                                                 | SDS                                                                                 |
| Travel to Make (mm)         | 0,3                                                                               | See datasheet                                                                     | 0,17                                                                              | 0,24                                                                               | 29,2°                                                                               | 0,35                                                                                |
| Overtravel (mm)             | 0,75                                                                              | See datasheet                                                                     | 0,5                                                                               | 1,66                                                                               | 39,1°                                                                               | 1,65                                                                                |
| Total Travel (mm)           | 1,05                                                                              | See datasheet                                                                     | 1,07                                                                              | 1,9                                                                                | 68,3°                                                                               | 2,0                                                                                 |
| Actuator Length (mm)        | 1,4                                                                               | See datasheet                                                                     | 1,17                                                                              | 2,15                                                                               | 1,85                                                                                | 2,5                                                                                 |
| Life Expectancy             | 100,000 cycles                                                                    | 20,000; 50,000;<br>100,000 cycles                                                 | 100,000 cycles                                                                    | 100,000 cycles                                                                     | 50,000 cycles                                                                       | 50,000 cycles                                                                       |
| Contact Type                | SPST N.O.                                                                         | SPST<br>SPDT                                                                      | SPST N.O.                                                                         | SPST N.O.                                                                          | SPDT                                                                                | SPST N.O.<br>SPST N.C.                                                              |
| Max. Voltage (V)            | 5                                                                                 | 5 V; 16 V<br>30 V                                                                 | 5                                                                                 | 5                                                                                  | 5                                                                                   | 12                                                                                  |
| Max. Switching Current (mA) | 1 mA                                                                              | 1 mA; 5 mA<br>100 mA                                                              | 1 mA                                                                              | 1 mA                                                                               | 1 mA                                                                                | 100 mA                                                                              |
| Sealing                     | No                                                                                | No                                                                                | No                                                                                | No                                                                                 | No                                                                                  | No                                                                                  |
| Mounting                    | Surface mount                                                                     | Thru-hole<br>Solder lug                                                           | Surface mount                                                                     | Surface mount                                                                      | Surface Mount                                                                       | Surface mount                                                                       |
|                             |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |

| Detect                      |  |  |  |  |  |  |
|-----------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Series                      | DDS                                                                                 | MDS                                                                                 | KDS                                                                                 | KM                                                                                   | MPS                                                                                   | ZMA                                                                                   |
| Travel to Make (mm)         | 0,45                                                                                | 2,5 max.                                                                            | 1,25 max.                                                                           | 4,06                                                                                 | See datasheet                                                                         | 1,3 max.                                                                              |
| Overtravel (mm)             | 1,95                                                                                | 0,15 min.                                                                           | 8,9                                                                                 | 1,78                                                                                 | See datasheet                                                                         | 0,2 min.                                                                              |
| Total Travel (mm)           | 2,4                                                                                 | 2,9                                                                                 | 10,16                                                                               | 5,84                                                                                 | See datasheet                                                                         | 1,5                                                                                   |
| Actuator Length (mm)        | 2,6                                                                                 | R 8,4                                                                               | 10,16                                                                               | 10,11                                                                                | N/A                                                                                   |                                                                                       |
| Life Expectancy             | 50,000 cycles                                                                       | 100,000 cycles                                                                      | 10,000 cycles                                                                       | 10,000 cycles                                                                        | 10,000,000 cycles                                                                     | 300,000 cycles                                                                        |
| Contact Type                | SPST N.O.                                                                           | SPDT                                                                                | SPST N.O.<br>SPST N.C.                                                              | SPDT                                                                                 | SPST N.O.                                                                             | SPDT                                                                                  |
| Max. Voltage (V)            | 30                                                                                  | 30                                                                                  | 20                                                                                  | 125 V AC                                                                             | 30                                                                                    | 125 V                                                                                 |
| Max. Switching Current (mA) | 100 mA                                                                              | 300 mA                                                                              | .4 VA                                                                               | 250 mA                                                                               | 300 mA                                                                                | 3 Amps                                                                                |
| Sealing                     | No                                                                                  | No                                                                                  | No                                                                                  | Flux tight                                                                           | Yes                                                                                   | No                                                                                    |
| Mounting                    | Thru-hole                                                                           | Thru-hole &<br>Surface Mount                                                        | Snap-in panel                                                                       | Thru-hole                                                                            | Wire lead                                                                             | Thru-hole                                                                             |
|                             |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |

## Detect Product Selection Guide

| Detect                      |  |  |  |  |  |  |
|-----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Series                      | KSU                                                                               | KSR2D                                                                             | KSM                                                                               | KSC4D                                                                              | KSJ                                                                                 | RB                                                                                  |
| Travel to Make (mm)         | 0,5                                                                               | 0,3                                                                               | 0,3                                                                               | 0,6                                                                                | 0,3                                                                                 | 10° ; 90°                                                                           |
| Overtravel (mm)             | 1,0                                                                               | N/A                                                                               | 1,15                                                                              | N/A                                                                                | 0,75                                                                                | N/A                                                                                 |
| Total Travel (mm)           | 1,5                                                                               | 0,3                                                                               | 1,72                                                                              | 0,6                                                                                | 1,05                                                                                | N/A                                                                                 |
| Actuator Length (mm)        | 1,5                                                                               | 0,8                                                                               | 1,8                                                                               | 2,6                                                                                | 1,4                                                                                 | N/A                                                                                 |
| Life Expectancy             | 100,000 cycles                                                                    | 100,000 cycles                                                                    | 50,000 cycles                                                                     | 500,000 and 2,000,000 cycles                                                       | 100,000 cycles                                                                      | 20,000; 100,000 cycles                                                              |
| Contact Type                | SPST N.O.                                                                         | SPST N.O.                                                                         | SPST N.C.                                                                         | SPST N.O.                                                                          | SPST N.O.                                                                           | SPST SPDT                                                                           |
| Max. Voltage (V)            | 32                                                                                | 32                                                                                | 32                                                                                | 32                                                                                 | 5                                                                                   | 5 V; 24 V                                                                           |
| Max. Switching Current (mA) | 50 mA                                                                             | 10 mA                                                                             | 50 mA                                                                             | 50 mA                                                                              | 1 mA                                                                                | 1 mA; 25 mA                                                                         |
| Sealing                     | Dust and water drop proof                                                         | Dust and flux tight                                                               | Flux tight                                                                        | IP67                                                                               | Flux tight                                                                          | No                                                                                  |
| Mounting                    | Surface mount                                                                     | Surface mount                                                                     | Surface mount                                                                     | Surface mount                                                                      | Surface mount                                                                       | Thru-hole                                                                           |

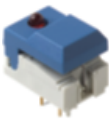
# DIP

## Product Selection Guide

| DIP                       |  |  |  |  |  |  |  |  |  |  |  |
|---------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Series                    | TDP                                                                               | TDA                                                                               | SDA                                                                               | SD                                                                                | BD                                                                                | BPA                                                                               | TDD                                                                                | SPA                                                                                 | RTE                                                                                 | CD                                                                                  | CRD                                                                                 |
| Switch Type               | Half-pitch<br>.050"<br>Side<br>actuated                                           | Half-pitch<br>.050"                                                               | Low<br>Profile                                                                    | Low<br>Profile                                                                    | Standard<br>Profile                                                               | Side<br>Actuated                                                                  | Jumper<br>Switch                                                                   | Single<br>In-line<br>Package                                                        | Rotary<br>& Coded                                                                   | 8 mm<br>Coded<br>Rotary                                                             | 10 mm<br>Coded<br>Rotary                                                            |
| No. of<br>Positions       | 2,4,8                                                                             | 2-10<br>(even only)                                                               | 2-12<br>(except 11)                                                               | 2-12<br>(except 11)                                                               | 1-12<br>(except 11)                                                               | 1-10 & 12                                                                         | 2                                                                                  | 2, 4, 6<br>8, 10                                                                    | 4, 10, 16                                                                           | 8, 10, 16                                                                           | 10 & 16                                                                             |
| Contact<br>Style          | SPST                                                                              | SPST                                                                              | SPST                                                                              | SPST                                                                              | SPST                                                                              | SPST                                                                              | SPDT                                                                               | SPST<br>SP3T<br>SP4T<br>Coded                                                       | Coded                                                                               | Coded                                                                               | Coded                                                                               |
| Profile<br>off PCB        | .161 (4,1)                                                                        | .090 (2,3)                                                                        | .189 (4,80)<br>Thru-hole<br>.175 (4,45)<br>SMT                                    | .168 (4,27)<br>Thru-hole<br>.160 (4,06)<br>SMT                                    | .297 (7,55)                                                                       | .287 (7,3)<br>Thru-hole<br>.274 (6,96)<br>SMT                                     | .090 (2,3)                                                                         | .244 (6,2)<br>Vertical<br>.169 (4,3)                                                | .169 (4,25)<br>Thru-hole<br>.168 (4,27)<br>SMT                                      | .168 (4,27)<br>Thru-hole<br>.340 (8,6)<br>Rt. angle                                 | .256 (6,5)<br>Vertical<br>.414 (10,5)<br>Rt. angle                                  |
| Process<br>Sealed         | washable<br>with tape                                                             | washable<br>with tape<br>seal                                                     | washable<br>(tape not<br>required)                                                | washable<br>with tape                                                             | washable<br>(tape not<br>required)                                                | washable<br>(tape not<br>required)                                                | washable<br>with tape                                                              | washable<br>(tape not<br>required)                                                  |                                                                                     | washable<br>(tape not<br>required)                                                  | washable<br>(tape not<br>required)                                                  |
| Extended<br>Actuator      | •                                                                                 |                                                                                   | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 |                                                                                    | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                   |
| Flush<br>Actuator         | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 |                                                                                   |                                                                                   | •                                                                                  | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                   |
| Thru-hole                 |                                                                                   |                                                                                   | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 |                                                                                    | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                   |
| Vertical                  |                                                                                   | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 |                                                                                   | •                                                                                  | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                   |
| Right Angle               | •                                                                                 |                                                                                   |                                                                                   |                                                                                   | •                                                                                 | •                                                                                 |                                                                                    | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                   |
| Surface<br>Mount          | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 |                                                                                   | •                                                                                 | •                                                                                  | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                   |
| Tape & Reel<br>(SMT only) |                                                                                   | •                                                                                 | •                                                                                 | •                                                                                 |                                                                                   | •                                                                                 | •                                                                                  | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                   |
| Maximum<br>Current        | 100mA                                                                             | 100mA                                                                             | 100mA                                                                             | 100mA                                                                             | 100mA                                                                             | 100mA                                                                             | 100mA                                                                              | 0.4VA                                                                               | 100mA                                                                               | 0.4VA                                                                               | 0.4VA                                                                               |
| Retention<br>Feature      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | •                                                                                   | •                                                                                   | •<br>C option                                                                       |                                                                                     |

## Keyswitch Product Selection Guide

| Key Switches           |  |  |  |  |
|------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Series                 | K6                                                                                | K12S                                                                              | K12                                                                               | PVA                                                                                 |
| Size (mm)<br>L x W x H | 7,4 x 10,9 x 8,4                                                                  | 12 x 11,6 x 9,1                                                                   | 12 x 12 x 11                                                                      | 9,2 x 10 x 13,5                                                                     |
| Poles/Throws           | SPST<br>momentary                                                                 | SPST / DPST<br>2x SPST momentary                                                  | SPST<br>2 x SPST<br>momentary                                                     | DPST / DPDT<br>momentary or<br>push-on/push off                                     |
| Maximum Load           | 30 V / 100 mA                                                                     | 30 V / 100 mA                                                                     | 30 V / 100 mA                                                                     | 32 V / 100 mA                                                                       |
| Operating Force        | 2 N; 3 N;<br>5 N                                                                  | 3 N; 3,5N; 5 N; 6 N<br>9 N; 4/8 N; 6/12 N                                         | 1,5 N; 2,5 N;<br>3,5 N; 5 N<br>3,5/7 N; 6/12 N                                    | 1,2 N; 1,7 N;<br>3,5 N                                                              |
| Travel (standard)      | 1,5 mm                                                                            | 1,5 mm                                                                            | 1 mm,<br>1,5 mm,<br>2 mm                                                          | Mom. 2,4 mm<br>Push-push<br>2,4/1,5mm                                               |
| Life Cycle             | 200,000                                                                           | 1,000,000                                                                         | 1,000,000                                                                         | 100,000                                                                             |
| Sealed                 |                                                                                   | IP40/IP67                                                                         | K12C only                                                                         |                                                                                     |
| Illumination           | •                                                                                 | •                                                                                 | •                                                                                 |                                                                                     |
| Termination            | SMT/<br>Thru-hole                                                                 | SMT                                                                               | Thru-hole                                                                         | Thru-hole                                                                           |

| Key Switches           |  |  |  |  |  |
|------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Series                 | D6                                                                                  | KS                                                                                  | Digitast                                                                            | ED / EDM                                                                             | KBD                                                                                   |
| Size (mm)<br>L x W x H | 12 x 11,4 x 14,5                                                                    | 12,4 x 12,4 x 9,9                                                                   | 17,1x12,3 x 14,3                                                                    | 12,7 x 11,3 x 1,2                                                                    | 15,6 x 15,6 x 15                                                                      |
| Poles/Throws           | SPST<br>momentary                                                                   | SPST<br>SPDT                                                                        | SPDT<br>momentary or<br>push-on/push off                                            | SPST<br>momentary                                                                    | SPST<br>momentary                                                                     |
| Maximum Load           | 32 V/100 mA*                                                                        | 50 V/25 mA                                                                          | 24 V / 10 mA                                                                        | 100 V/100 mA                                                                         | 12 VDC /10 mA                                                                         |
| Operating Force        | 1,3 N<br>2,75 N                                                                     |                                                                                     | 1,5 N                                                                               | 2,4 N to 6,5N                                                                        | 45gf / 55gf / 60gf<br>0,4N / 0,5N / 0,6N                                              |
| Travel (standard)      | 1 mm<br>1.10 mm                                                                     | 0,71 mm                                                                             | 3 mm                                                                                | 0,3 mm                                                                               | 1,5 ~ 2 mm                                                                            |
| Life Cycle             | 250,000                                                                             | 100,000                                                                             | 5,000,000                                                                           | 1,000,000                                                                            | 50,000,000                                                                            |
| Sealed                 |                                                                                     |                                                                                     |                                                                                     | •                                                                                    | •                                                                                     |
| Illumination           |                                                                                     |                                                                                     | •                                                                                   |                                                                                      |                                                                                       |
| Termination            | Thru-hole                                                                           | Thru-hole                                                                           | Thru-hole                                                                           | Thru-hole/SMT                                                                        | Thru-hole                                                                             |

\* Maximum value are for voltage and current separately

## Navigation Product Selection Guide

|                                      |                                                                                   |
|--------------------------------------|-----------------------------------------------------------------------------------|
| <b>Navigation</b>                    |  |
| <b>Series</b>                        | <b>TSW</b>                                                                        |
| <b>Number of directions</b>          | 3, 7                                                                              |
| <b>Size on PCB<br/>L x W (mm)</b>    | ø 21<br>ø 34,4                                                                    |
| <b>Total<br/>Height (mm)</b>         | 3,5<br>6,0                                                                        |
| <b>Actuator Type</b>                 | Custom                                                                            |
| <b>Actuation<br/>Force (N)</b>       | 2,2 to 3.0 scanning and select,<br>0.5N cm rotation                               |
| <b>Contact Type</b>                  | Silver                                                                            |
| <b>Max. Voltage (V)</b>              | 10                                                                                |
| <b>Max. Switching<br/>Power (VA)</b> | .01                                                                               |
| <b>Life Cycles/per direction</b>     | 1,000,000                                                                         |
| <b>Sealing</b>                       | Not sealed                                                                        |

### TSW Series 3 or 7 Function Tact and Scroll Wheel



#### Features/Benefits

- Compact and slim
- Multiple function in one component (rotary, select)
- Easy installation
- Integrated decoration (B type)

#### Typical Applications

- Remote controls
- Keyboards
- Printers
- Entertainment systems and White Goods

| Part Number       | Number of Circuits | Rotation<br>Actuation Force | Push<br>Actuation Force | Life Cycle<br>Rotation (per direction) | Life Cycle<br>Push |
|-------------------|--------------------|-----------------------------|-------------------------|----------------------------------------|--------------------|
| TSWA-3N-CD23 LFS  | 3                  | Max. 60g - cm               | 220g ± 50g              | 1,000,000 cycles                       | 1,000,000 cycles   |
| TSWB-3N-CB111 LFS | 5                  | Max. 50g - cm               | Max 300g                | 1,000,000 cycles                       | 1,000,000 cycles   |

# Pushbutton

## Product Selection Guide

|                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>Pushbutton</b>        |  |  |  |  |  |  |  |  |  |
| <b>Series</b>            | <b>ELUM</b>                                                                       | <b>EP</b>                                                                         | <b>TP</b>                                                                         | <b>E020</b>                                                                       | <b>8020</b>                                                                       | <b>E010</b>                                                                        | <b>8060</b>                                                                         | <b>8500</b>                                                                         | <b>KM</b>                                                                           |
| <b>Switch Type</b>       | Mom./Latching                                                                     | Tiny                                                                              | Tiny                                                                              | Snap-acting Mom.                                                                  | Snap-acting Mom.                                                                  | Miniature                                                                          | Alternate Action                                                                    | Sub-miniature                                                                       | Sub-miniature                                                                       |
| <b>Poles/Throws</b>      | SPDT                                                                              | SPST, SPDT, DPST                                                                  | SPST, SPDT, DPST                                                                  | SPDT, DPDT                                                                        | SPDT, DPDT, 3PDT, 4PDT                                                            | SPDT                                                                               | SPDT, DPDT                                                                          | SPST                                                                                | SPST, SPDT                                                                          |
| <b>Max. Current</b>      | 3.5 VA                                                                            | 1 Amp                                                                             | 1 Amp                                                                             | 1 Amp                                                                             | 1 Amp                                                                             | 4 Amps                                                                             | 6 Amps                                                                              | 3 Amps                                                                              | 1 Amp                                                                               |
| <b>Process Sealed</b>    |                                                                                   | •                                                                                 |                                                                                   | •                                                                                 |                                                                                   | •                                                                                  |                                                                                     |                                                                                     |                                                                                     |
| <b>Illuminated</b>       | •                                                                                 |                                                                                   |                                                                                   |                                                                                   | •                                                                                 |                                                                                    | •                                                                                   | •                                                                                   |                                                                                     |
| <b>PCB Mount Options</b> |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Thru-hole                | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                  | •                                                                                   | •                                                                                   | •                                                                                   |
| Vertical                 |                                                                                   | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                  | •                                                                                   | •                                                                                   | •                                                                                   |
| Right Angle              | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                  | •                                                                                   | •                                                                                   | •                                                                                   |
| Surface Mount            | •                                                                                 | •                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| <b>Panel Mount</b>       |                                                                                   |                                                                                   | •                                                                                 |                                                                                   | •                                                                                 | •                                                                                  | •                                                                                   | •                                                                                   | •                                                                                   |
|                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |

|                          |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
|--------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>Pushbutton</b>        |  |  |  |  |  |  |  |
| <b>Series</b>            | <b>8600</b>                                                                         | <b>8700</b>                                                                         | <b>GP</b>                                                                           | <b>PN</b>                                                                           | <b>PHB</b>                                                                            | <b>F</b>                                                                              | <b>NE-18</b>                                                                          |
| <b>Switch Type</b>       | Micro-miniature                                                                     | Over Travel                                                                         | Ultra-miniature                                                                     | Alternate & Mom. Action                                                             | Short Stroke                                                                          | Alternate & Mom. Action                                                               | Mains / Power                                                                         |
| <b>Poles/Throws</b>      | SPST                                                                                | SPST                                                                                | SPST, SPDT                                                                          | SPDT, DPDT, 4PDT                                                                    | DPDT, 4PDT                                                                            | DPDT, 4PDT, 6PDT, 8PDT, 10PDT                                                         | DPST, DPDT Varied                                                                     |
| <b>Max. Current</b>      | 500 mA                                                                              | 1 Amp                                                                               | 0.4 VA                                                                              | 200 mA                                                                              | 100 mA                                                                                | 500 mA                                                                                | 6 A                                                                                   |
| <b>Process Sealed</b>    |                                                                                     |                                                                                     | •                                                                                   |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| <b>PCB Mount Options</b> |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Thru-hole                | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                     | •                                                                                     | •                                                                                     |
| Vertical                 | •                                                                                   | •                                                                                   | •                                                                                   |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| Right Angle              |                                                                                     |                                                                                     | •                                                                                   | •                                                                                   | •                                                                                     | •                                                                                     | •                                                                                     |
| Surface Mount            |                                                                                     |                                                                                     | •                                                                                   |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| <b>Panel Mount</b>       | •                                                                                   | •                                                                                   |                                                                                     |                                                                                     |                                                                                       | •                                                                                     | •                                                                                     |
|                          |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |

## Pushbutton Product Selection Guide

|                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>Pushbutton</b>        |  |  |  |  |  |  |  |  |
| <b>Series</b>            | <b>FP</b>                                                                         | <b>AP</b>                                                                         | <b>APB</b>                                                                        | <b>HP</b>                                                                         | <b>NP</b>                                                                           | <b>PBA</b>                                                                          | <b>PB</b>                                                                           | <b>PS</b>                                                                           |
| <b>Switch Type</b>       | Ultra Miniature                                                                   | Industrial                                                                        | Industrial                                                                        | Hall Effect                                                                       | Sealed Power                                                                        | Snap-acting Mom.                                                                    | Miniature                                                                           | Sub-miniature Microminiature                                                        |
| <b>Poles/Throws</b>      | SPST                                                                              | SPST                                                                              | SPST                                                                              | Linear Output                                                                     | SPDT                                                                                | DPST                                                                                | DPDT 4PDT                                                                           | SPDT DPDT                                                                           |
| <b>Max. Current</b>      | 0.4 VA                                                                            | 400mA                                                                             | 400mA                                                                             | 10 mA                                                                             | 5 Amp                                                                               | 250mA                                                                               | 0.3A / 1A                                                                           | 0.1 / 1A<br>0.3 / 2A                                                                |
| <b>Process Sealed</b>    | •                                                                                 | IP67                                                                              | IP67                                                                              | IP68                                                                              | IP68                                                                                |                                                                                     |                                                                                     |                                                                                     |
| <b>PCB Mount Options</b> |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Thru-hole                | •                                                                                 | •                                                                                 | •                                                                                 |                                                                                   | •                                                                                   | •                                                                                   | •                                                                                   | •                                                                                   |
| Vertical                 | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                   | •                                                                                   |                                                                                     | •                                                                                   |
| Right Angle              | •                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     | •                                                                                   | •                                                                                   |
| Panel Mount              |                                                                                   | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                   | •                                                                                   |                                                                                     | •                                                                                   |
| Wire Leads               |                                                                                   | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Solder Lug               |                                                                                   | •                                                                                 | •                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Surface Mount            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Quick Connect            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

## Rocker Product Selection Guide

| Rocker              |  |  |  |  |  |  |  |
|---------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Series              | 7000                                                                              | E                                                                                 | ET                                                                                | T                                                                                 | 9000                                                                                | DA                                                                                  | D                                                                                   |
| Switch Type         | Miniature                                                                         | Miniature                                                                         | Subminiature                                                                      | Subminiature                                                                      | Power Rocker & Lever Handle                                                         | Miniature Power                                                                     | Miniature Power                                                                     |
| Poles/Throws        | SPDT, DPDT, 3PDT, 4PDT                                                            | SPDT, DPDT, 3PDT                                                                  | SPST, SPDT, DPDT                                                                  | SPST, SPDT, DPDT                                                                  | DPDT                                                                                | SPST, SPDT                                                                          | SPST, SPDT, DPST, DPDT                                                              |
| Max. Current        | 5 Amps                                                                            | 7.5 Amps                                                                          | 3 Amps                                                                            | 3 Amps                                                                            | 10 Amps                                                                             | 16 Amps<br>10 Amps                                                                  | 4 Amps<br>10 Amps                                                                   |
| Washable            |                                                                                   | •                                                                                 | •                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Illuminated         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | •                                                                                   |                                                                                     |
| Panel Mount Options |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Front Mount         | •                                                                                 | •                                                                                 |                                                                                   | •                                                                                 | •                                                                                   | Snap-in                                                                             | Snap-in                                                                             |
| Rear Mount          | •                                                                                 | •                                                                                 |                                                                                   | •                                                                                 | •                                                                                   |                                                                                     |                                                                                     |
| PCB Mount Options   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Vertical            | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                   | •                                                                                   | •                                                                                   |
| Right Angle         | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                   | •                                                                                   | •                                                                                   |
| Surface Mount       |                                                                                   |                                                                                   | •                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
|                     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |

| Rocker              |  |  |  |  |  |
|---------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Series              | DM                                                                                  | DM                                                                                  | DF                                                                                  | CR                                                                                  | SW                                                                                    |
| Switch Type         | Miniature<br>2 Pole Power                                                           | Miniature<br>Illuminated<br>Power                                                   | Power                                                                               | Round                                                                               | Miniature<br>Power                                                                    |
| Poles/Throws        | DPST,<br>DPDT                                                                       | SPST,<br>DPST                                                                       | SPST, SPDT,<br>DPST                                                                 | SPST,<br>SPDT                                                                       | SPST, SPDT,<br>DPST                                                                   |
| Max. Current        | 3 Amps,<br>10 Amps                                                                  | 3 Amps,<br>10 Amps                                                                  | 16 Amps                                                                             | 10 Amps,<br>6 Amps                                                                  | 3 A, 6 A, 6.5 A,<br>10 A, 16 A                                                        |
| Washable            |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |
| Illuminated         |                                                                                     | •                                                                                   |                                                                                     | •                                                                                   | •                                                                                     |
| Panel Mount Options |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |
| Front Mount         | Snap-in                                                                             | Snap-in                                                                             | Snap-in                                                                             | Snap-in                                                                             | Snap-in                                                                               |
| Rear Mount          |                                                                                     |                                                                                     | •                                                                                   |                                                                                     |                                                                                       |
| PCB Mount Options   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |
| Vertical            |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |
| Right Angle         |                                                                                     |                                                                                     | •                                                                                   |                                                                                     |                                                                                       |
| Surface Mount       |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |
|                     |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |

# Rotary Product Selection Guide

| Rotary                                |  |  |  |  |  |  |  |  |
|---------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Series                                | A                                                                                 | RTA                                                                               | M                                                                                 | R                                                                                 | F                                                                                   | H                                                                                   | RW                                                                                  | RM                                                                                  |
| Switch Type                           | Multi-pole/<br>Multi-position                                                     | Multi-pole/<br>Multi-position                                                     | Half-inch                                                                         | Rota-slide                                                                        | Rota-slide                                                                          | Power<br>Rota-slide                                                                 | Subminiature<br>Rotary SMT                                                          | Subminiature<br>Rotary                                                              |
| Miniature                             |                                                                                   | •                                                                                 |                                                                                   |                                                                                   | •                                                                                   |                                                                                     | •                                                                                   | •                                                                                   |
| Low Profile                           |                                                                                   |                                                                                   |                                                                                   |                                                                                   | •                                                                                   |                                                                                     | •                                                                                   |                                                                                     |
| Screwdriver<br>Slot                   | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                   |                                                                                     |                                                                                     | •                                                                                   |
| Power                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | •                                                                                   |                                                                                     |                                                                                     |
| Maximum<br>Current                    | 2.5 Amps                                                                          | 150 mA                                                                            | 6 Amps                                                                            | 5 Amps                                                                            | 4 Amps                                                                              | 12 Amps                                                                             | 0.1 A<br>10mA                                                                       | 0.5 Amps                                                                            |
| Poles                                 | 1-4                                                                               | 1-4                                                                               | 1 & 2                                                                             | 1 & 2                                                                             | 1 & 2                                                                               | 1 & 2                                                                               | 1                                                                                   | 1                                                                                   |
| Indexing                              | 30°, 45°, 90°                                                                     | 22.5°, 30°<br>36°                                                                 | 30° & 36°                                                                         | 36°                                                                               | 45° & 90°                                                                           | 45° & 90°                                                                           | 36° & 45°                                                                           | 45°                                                                                 |
| Splashproof                           | •                                                                                 |                                                                                   | •                                                                                 |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Sealed                                |                                                                                   |                                                                                   | •<br>F option                                                                     |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Non-shorting/<br>Shorting<br>Contacts | •                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Panel Mount Options                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Front Mount                           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Rear Mount                            | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                   | •                                                                                   |                                                                                     |                                                                                     |
| PCB Mount Options                     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Vertical                              | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                   |                                                                                     | •                                                                                   |                                                                                     |
| Terminations                          |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| Solder Lug                            | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                   | •                                                                                   |                                                                                     |                                                                                     |
| Wire Lead                             |                                                                                   |                                                                                   |                                                                                   | •                                                                                 | •                                                                                   | •                                                                                   |                                                                                     |                                                                                     |
| Quick<br>Connect                      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | •                                                                                   |                                                                                     |                                                                                     |
| PC                                    | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                   |                                                                                     | •                                                                                   | •                                                                                   |
|                                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

# Slide

## Product Selection Guide

| Slide               |  |  |  |  |  |  |  |
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| Series              | ES                                                                                | TS                                                                                | 1000                                                                              | GS                                                                                | L                                                                                  | LP                                                                                  | S                                                                                   |
| Switch Type         | Tiny                                                                              | Tiny                                                                              | Miniature                                                                         | Ultra-miniature                                                                   | Miniature                                                                          | Miniature                                                                           | Power                                                                               |
| Poles               | 1 & 2                                                                             | 1                                                                                 | 1 & 2                                                                             | 1                                                                                 | 1 & 2                                                                              | 1 & 2                                                                               | 1 & 2                                                                               |
| Momentary           |                                                                                   |                                                                                   | •                                                                                 |                                                                                   | •                                                                                  |                                                                                     | •                                                                                   |
| Process Sealed      | •                                                                                 |                                                                                   |                                                                                   | •                                                                                 |                                                                                    |                                                                                     |                                                                                     |
| Splashproof         | •                                                                                 |                                                                                   |                                                                                   |                                                                                   | •                                                                                  |                                                                                     |                                                                                     |
| Screwdriver Slot    |                                                                                   |                                                                                   |                                                                                   |                                                                                   | •                                                                                  |                                                                                     | •                                                                                   |
| Housing Marking     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | •                                                                                   | •                                                                                   |
| Tape & Reel         | •                                                                                 |                                                                                   |                                                                                   | •                                                                                 |                                                                                    |                                                                                     |                                                                                     |
| Max. Current        | 0.4VA                                                                             | 3A                                                                                | 6A                                                                                | 0.4VA                                                                             | 4A                                                                                 | 11A                                                                                 | 15A                                                                                 |
| Terminations        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |
| Wire Wrap           |                                                                                   | •                                                                                 | •                                                                                 |                                                                                   | •                                                                                  |                                                                                     |                                                                                     |
| Quick Connect       |                                                                                   |                                                                                   | •                                                                                 |                                                                                   |                                                                                    |                                                                                     | •                                                                                   |
| Wire Lead           |                                                                                   |                                                                                   |                                                                                   |                                                                                   | •                                                                                  | •                                                                                   | •                                                                                   |
| Solder Lug          |                                                                                   |                                                                                   | •                                                                                 |                                                                                   | •                                                                                  | •                                                                                   | •                                                                                   |
| PC                  | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                  |                                                                                     | •                                                                                   |
| PCB Mount Options   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |
| Thru-hole           | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                  | •                                                                                   | •                                                                                   |
| Vertical            | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                  | •                                                                                   | •                                                                                   |
| Right Angle         | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 |                                                                                    |                                                                                     | •                                                                                   |
| Surface Mount       | •                                                                                 |                                                                                   |                                                                                   | •                                                                                 |                                                                                    |                                                                                     |                                                                                     |
| Panel Mount Options |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |
| Snap-in             |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    | •                                                                                   | •                                                                                   |
| Mounting Ears       |                                                                                   |                                                                                   | •                                                                                 |                                                                                   | •                                                                                  |                                                                                     | •                                                                                   |
| Right Angle         | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 |                                                                                    |                                                                                     | •                                                                                   |

# Slide Product Selection Guide

| Slide               |  |  |  |  |  |  |  |  |  |
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| Series              | V                                                                                 | OS                                                                                | PCM                                                                               | AYZ                                                                               | JS                                                                                | JSM                                                                                | JSX                                                                                 | SS                                                                                  | SK                                                                                  |
| Switch Type         | Power & Line Voltage                                                              | Miniature                                                                         | Low Profile                                                                       | Low Profile                                                                       | Low Profile                                                                       | Low Profile                                                                        | Low Profile                                                                         | Miniature                                                                           | Miniature                                                                           |
| Poles               | 1 & 2                                                                             | 1 & 2                                                                             | 1 & 2                                                                             | 1 & 2                                                                             | 1 & 2                                                                             | 1                                                                                  | 1                                                                                   | 1, 2 & 4                                                                            | 1, 2 & 4                                                                            |
| Momentary           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   | •                                                                                  | •                                                                                   |                                                                                     |                                                                                     |
| Process Sealed      |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Splashproof         |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Screwdriver Slot    | •                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Housing Marking     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Tape & Reel         |                                                                                   |                                                                                   | •                                                                                 |                                                                                   | •                                                                                 | •                                                                                  | •                                                                                   |                                                                                     |                                                                                     |
| Max. Current        | 10.1A                                                                             | 200mA                                                                             | 0.3A                                                                              | 100mA                                                                             | 0.3A                                                                              | 0.3A                                                                               | 0.3A                                                                                | 0.3A                                                                                | 0.3A                                                                                |
| Terminations        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Wire Wrap           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Quick Connect       | •                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Wire Lead           |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Solder Lug          |                                                                                   | •                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| PC                  | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 |                                                                                    |                                                                                     | •                                                                                   | •                                                                                   |
| PCB Mount Options   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Thru-hole           | •                                                                                 | •                                                                                 |                                                                                   |                                                                                   | •                                                                                 |                                                                                    |                                                                                     | •                                                                                   | •                                                                                   |
| Vertical            | •                                                                                 | •                                                                                 |                                                                                   |                                                                                   | •                                                                                 |                                                                                    |                                                                                     | •                                                                                   |                                                                                     |
| Right Angle         | •                                                                                 | •                                                                                 |                                                                                   |                                                                                   | •                                                                                 |                                                                                    |                                                                                     |                                                                                     | •                                                                                   |
| Surface Mount       |                                                                                   |                                                                                   | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                  | •                                                                                   | •                                                                                   | •                                                                                   |
| Panel Mount Options |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Snap-in             | •                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Mounting Ears       | •                                                                                 | •                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     | •                                                                                   |                                                                                     |
| Right Angle         | •                                                                                 |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |

## Snap-acting Product Selection Guide

|                            |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>Snap-acting</b>         |  |  |  |  |  |  |  |
| <b>Series</b>              | <b>TF</b>                                                                         | <b>TM</b>                                                                         | <b>LC</b>                                                                         | <b>LCA</b>                                                                        | <b>LCS</b>                                                                          | <b>MM</b>                                                                           | <b>ZM</b>                                                                           |
| <b>Switch Type</b>         | Miniature                                                                         | Miniature                                                                         | Subminiature Precision                                                            | Subminiature                                                                      | Sealed Subminiature                                                                 | Subminiature Precision                                                              | Subminiature                                                                        |
| <b>Poles/Throws</b>        | SPST, SPDT                                                                        | SPST, SPDT                                                                        | SPST, SPDT                                                                        | SPDT                                                                              | SPST                                                                                | SPDT                                                                                | SPDT                                                                                |
| <b>Maximum Current</b>     | 21 Amps                                                                           | 15 Amps                                                                           | 10.1 Amps                                                                         | 10 Amps                                                                           | 6 Amps                                                                              | 7 Amps                                                                              | 3 Amps                                                                              |
| <b>Terminations</b>        |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Solder                     | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                   |                                                                                     |                                                                                     |
| Turret                     |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                     | •                                                                                   |                                                                                     |
| Quick Connect              | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                   |                                                                                     |                                                                                     |
| Screw                      |                                                                                   | •                                                                                 |                                                                                   |                                                                                   |                                                                                     |                                                                                     |                                                                                     |
| Wire Leads                 |                                                                                   |                                                                                   | •                                                                                 |                                                                                   | •                                                                                   |                                                                                     |                                                                                     |
| PC                         |                                                                                   |                                                                                   | •                                                                                 |                                                                                   | •                                                                                   | •                                                                                   | •                                                                                   |
| Formed PC                  |                                                                                   |                                                                                   | •                                                                                 |                                                                                   | •                                                                                   | •                                                                                   | •                                                                                   |
| <b>Extended Operations</b> | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                 |                                                                                     |                                                                                     |                                                                                     |

|                        |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
|------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>Snap-acting</b>     |  |  |  |  |  |  |  |  |  |
| <b>Series</b>          | <b>ZMA</b>                                                                          | <b>ZMS</b>                                                                          | <b>MDS</b>                                                                          | <b>HB</b>                                                                           | <b>A</b>                                                                             | <b>TL</b>                                                                             | <b>ZMSM</b>                                                                           | <b>TFS</b>                                                                            | <b>MS</b>                                                                             |
| <b>Switch Type</b>     | Subminiature                                                                        | Sealed Subminiature                                                                 | Subminiature                                                                        | Standard Precision                                                                  | General Purpose                                                                      | Door Interlock                                                                        | Sealed Subminiature                                                                   | Sealed Miniature                                                                      | Sub Miniature                                                                         |
| <b>Poles/Throws</b>    | SPDT                                                                                | SPDT                                                                                | SPDT                                                                                | SPST, SPDT                                                                          | SPST, SPDT, DP                                                                       | SPDT                                                                                  | SPDT                                                                                  | SPDT                                                                                  | SPDT SPST                                                                             |
| <b>Maximum Current</b> | 3 Amps                                                                              | 3 Amps                                                                              | 300 m Amps                                                                          | 20 Amps                                                                             | 30.1 Amps                                                                            | 15 Amps                                                                               | 3 Amps                                                                                | 10 Amps                                                                               | 0.1 / 5 Amps                                                                          |
| <b>Terminations</b>    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| Solder                 |                                                                                     | •                                                                                   | •                                                                                   | •                                                                                   |                                                                                      | •                                                                                     | •                                                                                     |                                                                                       | •                                                                                     |
| Quick Connect          |                                                                                     |                                                                                     |                                                                                     | •                                                                                   | •                                                                                    | •                                                                                     |                                                                                       | •                                                                                     | •                                                                                     |
| Wire Leads             |                                                                                     | •                                                                                   |                                                                                     |                                                                                     |                                                                                      |                                                                                       | •                                                                                     | •                                                                                     |                                                                                       |
| Screw                  |                                                                                     |                                                                                     |                                                                                     | •                                                                                   |                                                                                      | •                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| PCB Thru-hole          | •                                                                                   | •                                                                                   | •                                                                                   |                                                                                     |                                                                                      |                                                                                       | •                                                                                     |                                                                                       | •                                                                                     |
| Flat & Step Base       |                                                                                     |                                                                                     |                                                                                     | •                                                                                   |                                                                                      |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| <b>Bushing</b>         |                                                                                     |                                                                                     |                                                                                     | 15/32-32                                                                            | 3/8-23                                                                               |                                                                                       |                                                                                       |                                                                                       |                                                                                       |
| <b>Sealed</b>          |                                                                                     | •                                                                                   |                                                                                     | •                                                                                   |                                                                                      |                                                                                       | •                                                                                     | •                                                                                     |                                                                                       |

## Switchlock Product Selection Guide

|                            |                                                                                   |                                                                                   |                                                                                    |                                                                                     |
|----------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>Switchlock</b>          |  |  |  |  |
| <b>Series</b>              | <b>Y</b>                                                                          | <b>YF</b>                                                                         | <b>YM</b>                                                                          | <b>PF &amp; PM</b>                                                                  |
| <b>Switch Type</b>         | 4,5,6 Tumbler                                                                     | 4 Tumbler                                                                         | 4 Tumbler                                                                          | Tumbler                                                                             |
| <b>Lock</b>                | Metal                                                                             | Metal                                                                             | Metal                                                                              | Plastic                                                                             |
| <b>Latch Pawl</b>          | •                                                                                 |                                                                                   |                                                                                    |                                                                                     |
| <b>Miniature</b>           |                                                                                   | •                                                                                 | •                                                                                  | •                                                                                   |
| <b>Anti-static</b>         | •                                                                                 |                                                                                   |                                                                                    |                                                                                     |
| <b>Momentary</b>           | •                                                                                 |                                                                                   |                                                                                    |                                                                                     |
| <b>Poles</b>               | 1 & 2                                                                             | 1 & 2                                                                             | 1                                                                                  | 1 & 2                                                                               |
| <b>Indexing</b>            | 45° & 90°                                                                         | 45° & 90°                                                                         | 90°                                                                                | 45° & 90°                                                                           |
| <b>Max. Current</b>        | 4 Amps                                                                            | 4 Amps                                                                            | 4 Amps                                                                             | 4 Amps                                                                              |
| <b>Panel Mount Options</b> |                                                                                   |                                                                                   |                                                                                    |                                                                                     |
| Snap-in                    |                                                                                   |                                                                                   |                                                                                    | •                                                                                   |
| Bushing                    | •                                                                                 | •                                                                                 | •                                                                                  |                                                                                     |
| PC Thru-hole               | •                                                                                 |                                                                                   |                                                                                    |                                                                                     |

|                            |                                                                                     |                                                                                      |                                                                                       |
|----------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>Switchlock</b>          |  |  |  |
| <b>Series</b>              | <b>A</b>                                                                            | <b>H</b>                                                                             | <b>PL</b>                                                                             |
| <b>Switch Type</b>         | 4 & 5 Tumbler                                                                       | 5 Tumbler                                                                            | 5 Tumbler                                                                             |
| <b>Lock</b>                | Metal                                                                               | Metal                                                                                | Plastic                                                                               |
| <b>Cam</b>                 |                                                                                     |                                                                                      | •                                                                                     |
| <b>Miniature</b>           |                                                                                     |                                                                                      | •                                                                                     |
| <b>Anti-static</b>         | •                                                                                   |                                                                                      |                                                                                       |
| <b>Momentary</b>           |                                                                                     |                                                                                      |                                                                                       |
| <b>Poles</b>               | 1 - 4                                                                               | 1 & 2                                                                                | N/A                                                                                   |
| <b>Indexing</b>            | 30°, 45°, 90°                                                                       | 45° & 90°                                                                            | 90°                                                                                   |
| <b>Max. Current</b>        | 2.5 Amps                                                                            | 12 Amps                                                                              |                                                                                       |
| <b>Panel Mount Options</b> |                                                                                     |                                                                                      |                                                                                       |
| Snap-in                    |                                                                                     |                                                                                      | •                                                                                     |
| Bushing                    | •                                                                                   | •                                                                                    |                                                                                       |
| Thru-hole                  | •                                                                                   |                                                                                      |                                                                                       |

## Tactile Product Selection Guide

|                                      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
|--------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>Surface Mount</b>                 |    |    |    |    |    |    |    |
| <b>Series</b>                        | <b>KXT2</b>                                                                         | <b>KXT3</b>                                                                         | <b>KMT2</b>                                                                         | <b>KMT0</b>                                                                         | <b>KMR 2-8</b>                                                                        | <b>KMS</b>                                                                            | <b>PTS525</b>                                                                         |
| <b>Size on PCB<br/>L x W (mm)</b>    | 3,9 x 3                                                                             | 3 x 2                                                                               | 3 x 2,6                                                                             | 3 x 2,6                                                                             | 4,2 x 2,8                                                                             | 4,2 x 3,55                                                                            | 5,2 x 5,2                                                                             |
| <b>Total Height<br/>(mm)</b>         | 1,05                                                                                | 0,6                                                                                 | 0,65                                                                                | 0,65                                                                                | 1,9<br>2,5                                                                            | 1,42                                                                                  | 0,8 and 1,5                                                                           |
| <b>Travel (mm)</b>                   | 0,1                                                                                 | 0,13                                                                                | 0,15                                                                                | 0,15                                                                                | 0,2 to 0,35                                                                           | 0,25 to 0,3                                                                           | 0,3                                                                                   |
| <b>Actuation<br/>Force (N)</b>       | 100 gf<br>200 gf                                                                    | 100 gf<br>160gf<br>240 gf<br>330 gf                                                 | 1,0<br>1,6                                                                          | 1,0; 1,6<br>2,3; 3,4                                                                | 1,2; 2,0<br>3,0; 4,0                                                                  | 2,0<br>3,0                                                                            | 1,6<br>2,6                                                                            |
| <b>Contact Type</b>                  | Silver                                                                              | Silver                                                                              | Silver                                                                              | Silver                                                                              | Silver / Gold                                                                         | Silver / Gold                                                                         | Silver                                                                                |
| <b>Max.<br/>Voltage (V)</b>          | 12                                                                                  | 15                                                                                  | 32                                                                                  | 32                                                                                  | 32                                                                                    | 32                                                                                    | 32                                                                                    |
| <b>Max. Switching<br/>Power (VA)</b> | 0,5                                                                                 | 0,5                                                                                 | 0,5                                                                                 | 0,5                                                                                 | 1 / 0,2                                                                               | 1 / 0,2                                                                               | 1                                                                                     |
| <b>Life Cycles</b>                   | 100,000                                                                             | 300,000<br>500,000                                                                  | 150,000                                                                             | 300,000/600,000<br>1,000,000                                                        | 100,000<br>300,000                                                                    | 100,000                                                                               | 100,000                                                                               |
| <b>IP Rating</b>                     | IP64                                                                                | IP64                                                                                | IP54                                                                                | IP68                                                                                | IP40                                                                                  | IP40                                                                                  | IP40                                                                                  |
|                                      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |
| <b>Surface Mount</b>                 |  |  |  |  |  |  |  |
| <b>Series</b>                        | <b>PTS530</b>                                                                       | <b>PTS540</b>                                                                       | <b>PTS810</b>                                                                       | <b>PTS820</b>                                                                       | <b>PTS830</b>                                                                         | <b>PTS840</b>                                                                         | <b>KSR</b>                                                                            |
| <b>Size on PCB<br/>L x W (mm)</b>    | 4,5 x 4,5                                                                           | 3,7 x 3,7                                                                           | 4,2 x 3,2                                                                           | 3,9 x 2,9                                                                           | 3,5 x 2,6                                                                             | 3,5 x 3,55                                                                            | 7,15 x 3,8<br>7,3 x 3,8                                                               |
| <b>Total Height<br/>(mm)</b>         | 0,55 and 0,65                                                                       | 0,55 / 0,65                                                                         | 2,5                                                                                 | 1,5/2,0/2,5                                                                         | 1,4                                                                                   | 1,35                                                                                  | 2,5                                                                                   |
| <b>Travel (mm)</b>                   | 0,2                                                                                 | 0,15                                                                                | 0,15/0,2                                                                            | 0,2                                                                                 | 0,15                                                                                  | 0,2                                                                                   | 0,3 to 0,5                                                                            |
| <b>Actuation<br/>Force (N)</b>       | 1,0; 1,6;<br>2,0; 2,6;<br>4,0; 6,0                                                  | 160 gf<br>230 gf                                                                    | 1,6; 2,6;<br>4,0; 6,0                                                               | 1,6<br>2,5                                                                          | 160 gf<br>450 gf                                                                      | 1,6<br>2,2                                                                            | 1,2; 2,0;<br>3,0; 4,5                                                                 |
| <b>Contact Type</b>                  | Silver                                                                              | Silver                                                                              | Silver                                                                              | Silver                                                                              | Silver                                                                                | Silver                                                                                | Silver / Gold                                                                         |
| <b>Max.<br/>Voltage (V)</b>          | 12                                                                                  | 12                                                                                  | 16                                                                                  | 12                                                                                  | 12                                                                                    | 12                                                                                    | 32                                                                                    |
| <b>Max. Switching<br/>Power (VA)</b> | –                                                                                   | –                                                                                   | –                                                                                   | –                                                                                   | –                                                                                     | –                                                                                     | 1 / 0,2                                                                               |
| <b>Life Cycles</b>                   | 150,000 to<br>1,000,000                                                             | 300,000<br>500,000                                                                  | 50,000 to<br>150,000                                                                | 100,000<br>200,000                                                                  | 200,000<br>500,000                                                                    | 100,000                                                                               | 100,000<br>200,000                                                                    |
| <b>IP Rating</b>                     | –                                                                                   | IP40                                                                                | IP40                                                                                | IP40                                                                                | IP40                                                                                  | IP40                                                                                  | IP50                                                                                  |
|                                      |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |

\* Other options available by request

## Tactile Product Selection Guide

| Surface Mount Thru-Hole Options |  |  |  |               |  |  |  |
|---------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------|--|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Series                          | KSS                                                                               | KSC4V2                                                                            | KSC 1 - 10                                                                         |               |  | KSE                                                                                 | KT                                                                                  |
| Footprint                       | 5,5 x 4,4                                                                         | 2 holes $\varnothing$ 1,1<br>2 pads 1,5 x 0,8                                     | J<br>6,8 x 6,2                                                                     | G<br>10 x 6,2 |  | 6,8 x 6,2                                                                           | SA 7,5x5<br>SA2 7,5x7                                                               |
| Total Height (mm)               | 1,7                                                                               | 5,0*                                                                              |                                                                                    |               |  | 3,1 / 4,3                                                                           | 6,6<br>7,11 with tab                                                                |
| Travel (mm)                     | 0,3                                                                               | 0,7*                                                                              | 0,20 to 0,75 *                                                                     |               |  | 0,3                                                                                 | 0,3 to 0,5                                                                          |
| Actuation Force (N)             | 2<br>2,5<br>4                                                                     | 3.5*                                                                              | 1,1 to 5,5 *                                                                       |               |  | 1.5<br>2.25                                                                         | 3                                                                                   |
| Contact Type                    | Silver / Gold                                                                     | Silver / Gold                                                                     | Silver / Gold                                                                      |               |  | Silver                                                                              | Silver / Gold                                                                       |
| Max. Voltage (V)                | 32                                                                                | 32                                                                                | 32                                                                                 |               |  | 32                                                                                  | 50                                                                                  |
| Max. Switching Power (VA)       | 1 / 0,2                                                                           | 1 / 0,2                                                                           | 1 / 0.2                                                                            |               |  | 1                                                                                   | 1 / 0.2                                                                             |
| Life Cycles                     | 100,000                                                                           | 300,000                                                                           | 100,000 to 1,000,000                                                               |               |  | 300,000                                                                             | 100,000                                                                             |
| IP Rating                       | IP40                                                                              | IP67                                                                              | IP67                                                                               |               |  | IP67                                                                                |                                                                                     |
|                                 |                                                                                   |                                                                                   |                                                                                    |               |  |                                                                                     |                                                                                     |

| Surface Mount Thru-Hole Options |  |  |  |  |  |  |  |
|---------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Series                          | K5AT                                                                                | K8                                                                                  | K5V                                                                                 | KSF/KSI                                                                             | KSA                                                                                   | KSA-V                                                                                 | KSA MKII                                                                              |
| Footprint                       | G<br>8,4 x 10,8                                                                     | G<br>8,4 x 10,8                                                                     | 8 x 9 x 17 /<br>9 x 13                                                              | 7,62 x 5,08                                                                         | 7,62 x 5,08                                                                           | 7,62 x 2,54                                                                           | 7,62 x 5,08                                                                           |
| Total Height (mm)               | 6,1                                                                                 | 6                                                                                   | 9 / 13                                                                              | 2,6                                                                                 | 4,7<br>button option                                                                  | 8                                                                                     | 4,7                                                                                   |
| Travel (mm)                     | 0,5                                                                                 | 0,45                                                                                | 1,2                                                                                 | 0,3 to 0,5                                                                          | 0,3 to 0,5                                                                            | 0,3 to 0,5                                                                            | 0,3 to 0,5                                                                            |
| Actuation Force (N)             | 4.0                                                                                 | 4.0                                                                                 | 4.0                                                                                 | 1.3<br>3.0<br>5.0                                                                   | 1.3<br>3.0<br>5.0                                                                     | 1.3<br>3.0<br>5.0                                                                     | 1.3<br>3.0<br>5.0                                                                     |
| Contact Type                    | Gold                                                                                | Silver                                                                              | Gold                                                                                | Silver / Gold                                                                       | Silver / Gold                                                                         | Silver / Gold                                                                         | Silver / Gold                                                                         |
| Max. Voltage (V)                | 32                                                                                  | 32                                                                                  | 32                                                                                  | 32                                                                                  | 32                                                                                    | 32                                                                                    | 32                                                                                    |
| Max. Switching Power (VA)       | 1                                                                                   | 1                                                                                   | 1                                                                                   | 1 / 0.2                                                                             | 1 / 0.2                                                                               | 1 / 0.2                                                                               | 1 / 0.2                                                                               |
| Life Cycles                     | 100,000                                                                             | 300,000                                                                             | 25,000                                                                              | 100,000                                                                             | 100,000                                                                               | 100,000                                                                               | 100,000<br>1,000,000                                                                  |
| IP Rating                       | IP40                                                                                | IP40                                                                                | IP40                                                                                | IP60                                                                                | IP60                                                                                  | IP60                                                                                  | IP67                                                                                  |
|                                 |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                       |                                                                                       |                                                                                       |

\* Other options available by request

## Tactile Product Selection Guide

| Surface Mount<br>Thru-Hole<br>Options |  |  |  |  |  |  |
|---------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Series                                | KSJ                                                                               | KSJ-V                                                                             | KSJ                                                                               | KSJ-V                                                                             | PTS635                                                                             | PTS635-V                                                                            |
| Footprint                             | 7,62 x 5,08                                                                       | 7,62 x 2,54                                                                       | 7,62 x 5,08                                                                       | 7,62 x 2,54                                                                       | 6 x 3,5                                                                            | 7,0 x 2,5                                                                           |
| Total Height (mm)                     | 9,9                                                                               | 8                                                                                 | 6,65                                                                              | 8                                                                                 | 2,5<br>4,3<br>5,0                                                                  | 4,3                                                                                 |
| Travel (mm)                           | 0,3 to 0,5                                                                        | 0,3 to 0,5                                                                        | 0,55 to 0,7                                                                       | 0,55 to 0,7                                                                       | 0,25                                                                               | 0,25                                                                                |
| Actuation Force (N)                   | 1,3<br>3,0                                                                        | 1,3<br>3,0                                                                        | 2,0<br>3,0                                                                        | 2,0<br>3,0                                                                        | 1,3<br>2,0<br>2,6                                                                  | 1,3<br>2,0                                                                          |
| Contact Type                          | Silver / Gold                                                                     | Silver / Gold                                                                     | Silver / Gold                                                                     | Silver / Gold                                                                     | Silver                                                                             | Silver                                                                              |
| Max. Voltage (V)                      | 32                                                                                | 32                                                                                | 32                                                                                | 32                                                                                | 12                                                                                 | 12                                                                                  |
| Life Cycles                           | 100,000                                                                           | 100,000                                                                           | 100,000<br>30,000                                                                 | 100,000<br>30,000                                                                 | 20,000                                                                             | 20,000                                                                              |
| IP Rating                             | IP60                                                                              | IP60                                                                              | IP60                                                                              | IP60                                                                              | IP40                                                                               | IP40                                                                                |
|                                       |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |

| Surface Mount<br>Thru-Hole<br>Options |  |  |  |  |  |  |
|---------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|--|
| Series                                | PTS641                                                                              | PTS645                                                                              | PTS645-V                                                                            | PTS125                                                                              | ITS                                                                                  |  |
| Footprint                             | 6,3 x 6,4                                                                           | 6 x 6                                                                               | 7,0 x 2,5                                                                           | 12 x 12                                                                             | variety of<br>sizes<br>available                                                     |  |
| Total Height (mm)                     | 2,5<br>3,1<br>3,4                                                                   | 4,3; 5,0;<br>7,0; 9,5;                                                              | 7,1                                                                                 | 4,3<br>7,3 Sq. 8,5<br>12,0                                                          |                                                                                      |  |
| Travel (mm)                           | 0,20 / 0,30                                                                         | 0,25                                                                                | 0,25                                                                                | 0,30                                                                                | 0,25                                                                                 |  |
| Actuation Force (N)                   | 160 gf<br>250 gf<br>320 gf                                                          | 1,3; 1,6<br>2,0; 2,6                                                                | 1,3; 1,6<br>2,0; 2,6                                                                | 1,6<br>2,6                                                                          | 160 gf                                                                               |  |
| Contact Type                          | Silver                                                                              | Silver                                                                              | Silver                                                                              | Silver                                                                              | Silver                                                                               |  |
| Max. Voltage (V)                      | 12                                                                                  | 12                                                                                  | 12                                                                                  | 12                                                                                  | 12                                                                                   |  |
| Life Cycles                           | 100,000                                                                             | 100,000                                                                             | 100,000                                                                             | 200,000                                                                             | 50,000                                                                               |  |
| IP Rating                             | IP40                                                                                | IP40                                                                                | IP40                                                                                | IP40                                                                                | IP40                                                                                 |  |
|                                       |                                                                                     |                                                                                     |                                                                                     |                                                                                     |                                                                                      |  |

# Toggle Product Selection Guide

|                                    |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
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| <b>Toggles</b>                     |  |  |  |  |  |  |  |
| <b>Series</b>                      | <b>7000</b>                                                                       | <b>Military</b>                                                                   | <b>E</b>                                                                          | <b>ET</b>                                                                          | <b>T</b>                                                                            | <b>GT</b>                                                                           | <b>9000</b>                                                                         |
| <b>Switch Type</b>                 | Miniature                                                                         | Miniature                                                                         | Miniature                                                                         | Subminiature                                                                       | Subminiature                                                                        | Ultraminiature                                                                      | Power                                                                               |
| <b>Poles/Throws</b>                | SPDT, DPDT, 3PDT, 4PDT                                                            | SPDT, DPDT,                                                                       | SPDT, DPDT, 3PDT                                                                  | SPST, SPDT, DPDT                                                                   | SPST, SPDT, DPDT                                                                    | SPST, SPDT, DPST, DPDT                                                              | DPDT                                                                                |
| <b>Maximum Current Silver/Gold</b> | 5 Amps                                                                            | 5 Amps                                                                            | 7.5 Amps/ 5 Amps                                                                  | 3 Amps/ 2 Amps                                                                     | 3 Amps/ 2 Amps                                                                      | 0.4 VA                                                                              | 10 Amps                                                                             |
| <b>Process Sealed</b>              |                                                                                   |                                                                                   | •                                                                                 | •                                                                                  |                                                                                     | •                                                                                   |                                                                                     |
| <b>PCB Mount Options</b>           |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Vertical                           | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                  | •                                                                                   | •                                                                                   | •                                                                                   |
| Right Angle                        | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                  | •                                                                                   | •                                                                                   |                                                                                     |
| Vertical Right Angle               | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                  | •                                                                                   | •                                                                                   | •                                                                                   |
| <b>Surface Mount Options</b>       |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Vertical                           |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     | •                                                                                   |                                                                                     |
| Right Angle                        |                                                                                   |                                                                                   |                                                                                   | •                                                                                  |                                                                                     | •                                                                                   |                                                                                     |
| <b>Panel Mount Options</b>         |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Rear Mount                         | •                                                                                 | •                                                                                 | •                                                                                 |                                                                                    | •                                                                                   |                                                                                     | •                                                                                   |
| <b>Termination Options</b>         |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| PCB Thru-hole                      | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                  | •                                                                                   | •                                                                                   | •                                                                                   |
| Wire Wrap                          | •                                                                                 |                                                                                   | •                                                                                 | •                                                                                  | •                                                                                   |                                                                                     |                                                                                     |
| Solder Lug                         | •                                                                                 | •                                                                                 | •                                                                                 |                                                                                    | •                                                                                   |                                                                                     | •                                                                                   |
| Quick Connect                      | •                                                                                 |                                                                                   | •                                                                                 |                                                                                    |                                                                                     |                                                                                     | •                                                                                   |
| <b>Other Available Options</b>     |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| Support Brackets                   | •                                                                                 | •                                                                                 | •                                                                                 | •                                                                                  | •                                                                                   | •                                                                                   | •                                                                                   |
| Snap-in Retention                  | •                                                                                 |                                                                                   | •                                                                                 | •                                                                                  |                                                                                     |                                                                                     |                                                                                     |
| ESD Protection                     | •                                                                                 |                                                                                   | •                                                                                 | •                                                                                  | •                                                                                   |                                                                                     |                                                                                     |
| Tape & Reel                        |                                                                                   |                                                                                   |                                                                                   | •                                                                                  |                                                                                     | •                                                                                   |                                                                                     |
| <b>Bushing Options</b>             |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
| 10-48                              |                                                                                   |                                                                                   |                                                                                   |                                                                                    | •                                                                                   |                                                                                     |                                                                                     |
| 1/4-40                             | •                                                                                 | •                                                                                 | •                                                                                 |                                                                                    | •                                                                                   |                                                                                     | •                                                                                   |
| 15/32                              | •                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     | •                                                                                   |
| M6P 0.75 (Metric)                  | •                                                                                 |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |
|                                    |                                                                                   |                                                                                   |                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |

**HDT Series****Micro Miniature Surface Mount Detect Switch****Features/Benefits**

- Low profile package
- Design allows top or side actuation
- Low actuation force, 35 grams max.
- Pick and place compatible, available in tape & reel packaging
- Halogen free

**Typical Applications**

- Consumer electronics
- Computers
- Medical devices
- ATCA and MicroTCA devices

| Part Number | Contact Type | Contact Rating | Pre-Travel | Overtravel | Total Travel | Mechanical /Electrical Life |
|-------------|--------------|----------------|------------|------------|--------------|-----------------------------|
| HDT0001     | SPST, NO     | 1 mA 5 VDC     | .30 mm     | .75 mm     | 1.05 mm      | 100,000 cycles min.         |

**SDP Series****Micro Mini Pendulum SMT Detect Switch****Features/Benefits**

- SMT process compatible
- Low profile
- Right or left side actuated
- Low actuation force
- Low halogen / halogen free

**Typical Applications**

- Consumer electronics
- Computers
- Medical devices
- ATCA and MicroTCA devices

| Part Number | Contact Type | Contact Rating | Contact Material   | Total Travel      | Over Travel     | Operating Life |
|-------------|--------------|----------------|--------------------|-------------------|-----------------|----------------|
| SDP002      | SPDT, NO     | 1mA 5 VDC      | silver over nickel | 68.3° from center | 39.1° (1.31 mm) | 50,000 cycles  |

Refer to full line catalog to see operating zone chart

**KSU Series****Micro Miniature Surface Mount Detect Switch****Features/Benefits**

- New multi contact construction
- Metal actuator
- Low actuating force
- Gold contacts
- Compatible with pick and place machines

**Typical Applications**

- Mobile phones and other handheld devices
- Portable medical devices
- Audio devices
- Automotive
- Alarm devices
- Payment terminals

| Part Number | Contact Type | Contact Material | Travel                  | Operating Force | Operating Life |
|-------------|--------------|------------------|-------------------------|-----------------|----------------|
| KSU213WLFG  | SPST NO      | Gold             | 0.65 mm - 0.45/+0.25 mm | 1.1 ± 0.8 N     | 100,000 cycles |

**KSM Series****Side Actuated Detect Switch****Features/Benefits**

- Low profile – 1.5 mm
- Momentary
- Thermoformed tape & reel
- Low actuation force

**Typical Applications**

- Automotive
- Position sensing switch
- Edge card reset switch
- Smart card presence switch detector
- Tampering
- DSL and fiber optic networks

| Part Number  | Contact Type         | Contact Material | Travel        | Operating Force | Operating Life |
|--------------|----------------------|------------------|---------------|-----------------|----------------|
| KSM1131D LFG | SPST Normally closed | Gold             | 1.25 ± 0.2 mm | 1.05 N          | 50,000 cycles  |

**SDS Series****Micro Miniature Surface Mount Detect Switch****Features/Benefits**

- Low profile package sits just 2mm off PCB
- 2mm overtravel ideal for detector applications
- Low actuation force (75 grams max.)
- RoHS compliant and compatible

**Typical Applications**

- Medical devices
- Consumer electronic devices
- PCB lock cam detect
- Smart card detect
- ATCA and MicroTCA

| Part Number | Contact Type | Contact Rating  | Contact Material | Total Travel | Over Travel | Operating Life |
|-------------|--------------|-----------------|------------------|--------------|-------------|----------------|
| SDS0001     | SPST NO      | 100 mA @ 12 VDC | Silver           | 2,0 mm       | 1,65 mm     | 50,000 cycles  |

**KSC4D Series****Sealed Detect Switch for SMT****Features/Benefits**

- Soft actuator
- Permanent actuation possible
- J bend or Gullwing terminations
- Tape & reel
- IP 67

**Typical Applications**

- Automotive
- Cellular phones
- Industrial electronics
- Computer infrastructure and IT

| Part Number | Actuator Height | Operating Force | Contact Material | Electrical Life  | Travel         |
|-------------|-----------------|-----------------|------------------|------------------|----------------|
| KSC4D2J50SH | 5.2 mm          | 2 ± 1 N         | Silver           | 2,000,000 cycles | 0.35 ± 0.85 mm |

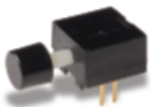
**KSJ Series****Sealed Detect Switch for SMT****Features/Benefits**

- Straight or vertical detect
- Spherical actuator allows actuation +/- 30°
- High travel / silent switch
- Adapted for cam actuation

**Typical Applications**

- Automotive
- Industrial electronics
- Computer infrastructure and IT

| Part Number     | Operating Force | Contact Material | Electrical Life | Travel         |
|-----------------|-----------------|------------------|-----------------|----------------|
| KSJ0VD180SH LFT | 6.0 N           | Silver           | 200,000 cycles  | 0,50 ± 0,25 mm |

**KM Series****Subminiature Detect Switches****Features/Benefits**

- Reliable contact design
- Available with pretravel and overtravel
- Contact rating Gold 0.4 VA MAX. @ 20 V AC OR DC MAX.  
Silver 0.25 AMPS @ 125 V AC OR DC

**Typical Applications**

- Alarm systems
- Computers
- Detector switch application

| Part Number | Function      | Actuator               | Mounting Style/Termination | Contact Material | Electrical Life |
|-------------|---------------|------------------------|----------------------------|------------------|-----------------|
| KM1202A08BE | On-Mom., SPDT | .398" high, .122" dia. | Right angle, PC thru-hole  | Gold             | 10,000 cycles   |
| KM1202A08QE | On-Mom., SPDT | .398" high, .122" dia. | Right angle, PC thru-hole  | Silver           | 10,000 cycles   |

## MPS Series Magnetic Proximity Sensors



### Features/Benefits

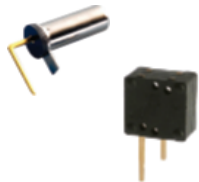
- Long life—4M operations
- Sealed contacts
- Quality construction
- Quick and easy installation
- Contact rating 3.0 W max. @ 30 V DC or 30 V AC max. @ 0.3 AMP max.; 1.0 msec. max. operate time (including bounce); 1.0 AMP max. carry current.

### Typical Applications

- Automotive sensors and indicators
- Industrial sensors
- Factory automation equipment

| Part Number | Function                                                                       |
|-------------|--------------------------------------------------------------------------------|
| MPS45WGW    | Subminiature surface mount (adhesive or flange), side exit leads, 1" make gap. |

## RB Series Rolling Ball Sensor Switch



### Features/Benefits

- Compact shielded design
- 10 degree angle of detection
- Conductive ball is movable inside tube to generate signal and control

### Typical Applications

- Movement detection
- White goods
- Consumer electronics

| Part Number | Contact Type | Contact Rating                   | Sensor Angle     | Operating Life | Termination  |
|-------------|--------------|----------------------------------|------------------|----------------|--------------|
| RB-231X2    | SPST         | 1mA 5 V DC resistive load max    | 0° to 10° scope  | 100,000 cycles | PC Thru-hole |
| RB-220-07 R | SPST         | 1mA 5 V DC resistive load max    | 15° to 90° scope | 100,000 cycles | PC Thru-hole |
| RB-441-45   | SPDT         | 25 mA 24 V DC resistive load max | 45° ± 15°        | 100,000 cycles | PC Thru-hole |

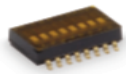
*Note - this catalog represents a small sample of C&K part numbers. C&K has over 55,000 part numbers available.*

*Please refer to the C&K full line catalog for a complete list of products and configurations.*

*Dimensions and specifications subject to change.*

## TDA Series

### Ultra-miniature Surface Mount Half-pitch DIP Switches



#### Features/Benefits

- Bifurcated contact for increased electrical reliability
- Process sealed for surface mount soldering and washable processing
- Contact Rating 24 V DC, 25 mA (switching).  
50 V DC, 100 mA (steady state).

#### Typical Applications

- Hand-held electronic devices
- Portable computer and electronic devices
- Instrumentation and controls

| Part Number | Number of Positions | Actuator       | Termination   | Contact Material | Electrical Life |
|-------------|---------------------|----------------|---------------|------------------|-----------------|
| TDA04H0SB1R | SPST, 4 pos.        | Flush Actuator | SMT, Gullwing | Gold             | 1,000 cycles    |
| TDA08H0SB1R | SPST, 8 pos.        | Flush Actuator | SMT, Gullwing | Gold             | 1,000 cycles    |
| TDA10H0SB1R | SPST, 10 pos.       | Flush Actuator | SMT, Gullwing | Gold             | 1,000 cycles    |

## SDA Series

### Low Profile DIP Switches



#### Features/Benefits

- Low profile design saves space
- Thru-hole and surface mount models
- High pressure contact does not require tape seal for washing
- Contact Rating 25 mA @ 24 V DC or 100 mA @ 5 V DC

#### Typical Applications

- Address switch for industrial controls
- Logic switching for computers and peripherals
- Function controlling for numerous applications

| Part Number | Number of Positions | Actuator                       | Mounting Style/<br>Termination | Contact Material | Electrical Life |
|-------------|---------------------|--------------------------------|--------------------------------|------------------|-----------------|
| SDA08H0B    | SPST, 8 pos.        | Flush Actuator – With Top Tape | PC thru-hole                   | Gold plating     | 1,000 cycles    |
| SDA03H0SBR  | SPST, 3 pos.        | Flush Actuator – With Top Tape | SMT, Gullwing                  | Gold plating     | 1,000 cycles    |
| SDA04H0SBR  | SPST, 4 pos.        | Flush Actuator – With Top Tape | SMT, Gullwing                  | Gold plating     | 1,000 cycles    |

## BPA Series

### Side Actuated DIP Switches



#### Features/Benefits

- Side actuated contacts
- Available in thru-hole or SMT models
- High pressure contact system does not require tape seal for washing
- Contact Rating 100 mA max. @ 5 V DC or 25 mA max. @ 24 V DC

#### Typical Applications

- Address switch for industrial controls
- Logic switching for computers and peripherals
- Function controlling for numerous applications

| Part Number | Number of Positions | Actuator              | Mounting Style/<br>Termination | Contact Material       | Electrical Life |
|-------------|---------------------|-----------------------|--------------------------------|------------------------|-----------------|
| BPA04B      | SPST, 4 pos.        | Side actuator /Piano  | PC thru-hole                   | Gold over nickel plate | 1,000 cycles    |
| BPA01B      | SPST, 1 pos.        | Side actuator / Piano | PC thru-hole                   | Gold over nickel plate | 1,000 cycles    |
| BPA05SB     | SPST, 5 pos.        | Side actuator / Piano | SMT, Gullwing                  | Gold over nickel plate | 1,000 cycles    |

Note - this catalog represents a small sample of C&K part numbers. C&K has over 55,000 part numbers available.

Please refer to the C&K full line catalog for a complete list of products and configurations.

Dimensions and specifications subject to change.

## RTE Series Low Profile Rotary DIP Switches



### Features/Benefits

- Miniature size with robust stainless steel cover
- Rotary SPDT, SP3T, SP4T functions
- Rotary binary-decimal and hexadecimal coding
- Contact rating   Gold:    100 mA max.  
                                  10µ A min. 30 V DC max. 20 mVDC min.
- Silver: 100 mA max. 1 mA min. 50 V DC max.  
                                  2 VDC min.

### Typical Applications

- Timers, automation components
- Computer and peripherals
- Alarms, smoke detectors, access control
- Instrumentation
- Address switching applications

| Part Number | Switch Function          | ESD Protection /Actuator             | Mounting Style/<br>Termination | Contact Material | Electrical life |
|-------------|--------------------------|--------------------------------------|--------------------------------|------------------|-----------------|
| RTE1002G14  | 10 position, BCD         | Without ESD, shaft for button        | SMT, Gullwing                  | Gold             | 20,000 cycles   |
| RTE1600V44  | 16 position, hexadecimal | Without ESD, Flush, screwdriver slot | Right angle                    | Gold             | 20,000 cycles   |
| RTE0400N04  | 4 position, single pole  | Without ESD, Flush, screwdriver slot | PC thru-hole                   | Gold             | 20,000 cycles   |

## CD / CRD Series 8mm / 10mm DIP Coded Rotary Switches



### Features/Benefits

- Process sealed – withstands soldering and cleaning
- Thru-hole and surface mount models
- Crisp, positive detent ensures actuation
- Contact rating 0.4 VA max. @ 20 V AC or V DC max.

### Typical Applications

- Address switching applications
- Data storage devices
- Computer and peripherals
- Instrumentation

| Part Number | Switch Function                     | Actuator                | Mounting Style/<br>Termination | Contact Material | Electrical Life |
|-------------|-------------------------------------|-------------------------|--------------------------------|------------------|-----------------|
| CD10RM0SBR  | 10 position, BCD                    | Flush, screwdriver slot | SMT, Gullwing                  | Gold             | 20,000 cycles   |
| CD16RM0SBR  | 16 position, Hexadecimal            | Flush, screwdriver slot | SMT, Gullwing                  | Gold             | 20,000 cycles   |
| CRD10RM0CB  | 10 position, BCD                    | Flush, screwdriver slot | PC thru-hole                   | Gold             | 20,000 cycles   |
| CRD16CM0SBR | 16 position, Hexadecimal complement | Flush, screwdriver slot | SMT, Gullwing                  | Gold             | 20,000 cycles   |

## D6 Series

### SPST Momentary Key Switches



#### Features/Benefits

- Positive tactile feedback
- High temperature
- Wide variety of colors and styles

#### Typical Applications

- Video
- Electronic games
- Appliances

| Part Number  | Function | Button Type / Color | Travel | Operating Force |
|--------------|----------|---------------------|--------|-----------------|
| D6R90 F1 LFS | SPST, NO | Round / Black       | 0.6 mm | 1.3 N           |
| D6C90 F1 LFS | SPST, NO | Square / Black      | 0.6 mm | 1.3 N           |
| D6R10 F1 LFS | SPST, NO | Round / Gray        | 0.6 mm | 1.3 N           |
| D6L90 F1 LFS | SPST, NO | Plunger / Black     | 0.6 mm | 1.3 N           |

## K12 Series

### High Performance Key Switches



#### Features/Benefits

- Excellent tactile feel
- Wide choice of LED colors, travel and actuator forces
- Sealed version available
- Designed for low-level switching
- Double stroke versions available

#### Typical Applications

- Automotive
- Off-road transportation
- Industrial electronics
- Computers & network equipment

| Part Number           | Type                                   | Button Type / Color | Travel | Operating Force |
|-----------------------|----------------------------------------|---------------------|--------|-----------------|
| K12GO BK 1.5 6/12N    | Two-step switch                        | Black cap           | 1.5 mm | 6 / 12 N        |
| K12P BK 1 5N          | With snap-in pegs                      | Black cap           | 1 mm   | 5 N             |
| K12A BK 1 5N          | No snap-in pegs                        | Black cap           | 1 mm   | 5 N             |
| K12C 1 5N             | Sealed contact with rubber cap (IP 67) | Black rubber cap    | 1 mm   | 5 N             |
| K12PL WH 1.5 5N LV302 | With central LED                       | White LED           | 1.5 mm | 5 N             |

## K12S Series

### High Performance SMT Key Switches



#### Features/Benefits

- IP67
- Compatible with SMT lead free soldering process/ tape & reel packaging
- Illuminated
- Excellent tactile feel
- High reliability / long life
- DPST, double step and detect versions available
- Normally closed version available

#### Typical Applications

- Automotive, Motorbikes
- Off-road transportation
- Industrial electronics
- Medical
- Network

| Part Number               | Sub-Series       | Type | LED Color | Travel | Operating Force | Contact Arrangement |
|---------------------------|------------------|------|-----------|--------|-----------------|---------------------|
| K12SB S 1.5 9N O LFTX     | IP67 with peg    | SPST | None      | 1.5 mm | 9 N             | NO                  |
| K12SB S 1.5 3.5N C LFTX   | IP67 with peg    | SPST | None      | 1.5 mm | 3 N detect      | NC                  |
| K12SC L 1.5 WHO 9N O LFTX | IP40 without peg | SPST | White     | 1.5 mm | 9 N             | NO                  |
| K12SC D 1.5 4/8N OO LFTX  | IP40 without peg | DPST | None      | 1.5 mm | 4/8 N           | 2 NO                |

## PVA Series Short Stroke Key Switches



### Features/Benefits

- Compact design
- Short stroke to latch
- Wide variety of actuator heights and styles
- Adapted for medium power applications

### Typical Applications

- Automotive (air conditioning, lighting)
- Industrial
- Control panel

| Part Number      | Function | Mechanical Function | Total Height | Travel | Operating Force |
|------------------|----------|---------------------|--------------|--------|-----------------|
| PVA1EEH1 3.5N V2 | DPST     | Push-push           | 17.5 mm      | 2.4 mm | 3.5 N           |
| PVA1OAH1 1.2N V2 | DPST     | Momentary           | 17.5 mm      | 2.4 mm | 1.2 N           |
| PVA2EEH3 1.2N V2 | DPDT     | Push-push           | 20.5 mm      | 2.4 mm | 1.2 N           |
| PVA2OAH5 1.7N V2 | DPDT     | Momentary           | 13 mm        | 2.4 mm | 1.7 N           |

## Digitast Series SPDT Key Switches



### Features/Benefits

- Designed for low level switching
- High reliability/long life
- Several button options

### Typical Applications

- Medical
- Instrumentation
- Industrial electronics

| Part Number  | Function        | Button        | Button Color | Contact Material | Termination  |
|--------------|-----------------|---------------|--------------|------------------|--------------|
| SER BK AU OA | SPDT, Momentary | Narrow button | Black        | Gold             | PC Thru-hole |
| SET BK AU OA | SPDT, Momentary | Wide button   | Black        | Gold             | PC Thru-hole |
| SERU AU OA   | SPDT, Momentary | -             | -            | Gold             | PC Thru-hole |
| SRK GY       | -               | Narrow button | Gray         | -                | -            |
| STK WH       | -               | Wide button   | White        | -                | -            |

## EP Series Sealed Tiny Pushbutton Switches



### Features/Benefits

- Sealed against solder & cleaning processes
- Snap-fitting actuator accepts standard caps
- Contact rating 0.4VA max @ 20 V AC or DC max.

### Typical Applications

- Telecommunications and networking equipment
- Computers and peripherals
- Instrumentation and controls

| Part Number | Function      | Mounting Style/Termination         | Plunger    | Contact Material | Operating Life |
|-------------|---------------|------------------------------------|------------|------------------|----------------|
| EP11SD1ABE  | SPST Off-Mom. | Right angle, PC thru-hole          | .215" high | Gold             | 60,000 cycles  |
| EP11SD1AVBE | SPST Off-Mom. | Vertical right angle, PC thru-hole | .215" high | Gold             | 60,000 cycles  |
| EP11SD1CBE  | SPST Off-Mom. | PC thru-hole                       | .215" high | Gold             | 60,000 cycles  |
| EP11SD1SAPE | SPST Off-Mom. | Right angle, Surface mount         | .215" high | Gold, matte-tin  | 60,000 cycles  |
| EP12SD1ABE  | SPDT On-Mom.  | Right angle, PC thru-hole          | .215" high | Gold             | 30,000 cycles  |

## TP Series Sealed Tiny Pushbutton Switches



### Features/Benefits

- Subminiature size—capable of switching 1 AMP
- Epoxy terminal seal compatible with bottom wash cleaning
- Contact rating Gold: 0.4 VA max. @ 20 V AC or DC max.  
Silver: 1 AMP @ 120 V AC or 28 V DC

### Typical Applications

- Telecommunications and networking equipment
- Computers and peripherals
- Instrumentation and controls

| Part Number | Function      | Actuator or Bushing                                          | Mounting Style/Termination | Contact Material | Operating Life |
|-------------|---------------|--------------------------------------------------------------|----------------------------|------------------|----------------|
| TP11SH8ABE  | SPST Off-Mom. | .155" high plunger, unthreaded;<br>.220" high bushing, round | Right angle, PC thru-hole  | Gold             | 60,000 cycles  |
| TP11SH9ABE  | SPST Off-Mom. | .155" high plunger, unthreaded;<br>.220" high bushing, flat  | Right angle, PC thru-hole  | Gold             | 60,000 cycles  |
| TP11SH9CBE  | SPST Off-Mom. | .155" high plunger, unthreaded;<br>.220" high bushing, flat  | PC thru-hole               | Gold             | 60,000 cycles  |
| TP11SHZQE   | SPST Off-Mom. | .155" high plunger, threaded;<br>.220" high bushing, flat    | Solder lug                 | Silver           | 60,000 cycles  |
| TP12SH9ABE  | SPDT On-Mom.  | .155" high plunger, unthreaded;<br>.220" high bushing, flat  | Right angle, PC thru-hole  | Gold             | 30,000 cycles  |

## FP Series Sealed Ultra Miniature Pushbutton Switches



### Features/Benefits

- Sealed against soldering and cleaning processes
- Contact rating 0.4 VA (28 V DC or V AC) max.
- Operating life 50,000 cycles

### Typical Applications

- Networking equipment
- Modems
- Reset functions
- Instrumentation

| Part Number    | Function      | Actuator Length | Mounting Style | Contact Material       | Cap                     |
|----------------|---------------|-----------------|----------------|------------------------|-------------------------|
| FP11SPC1B1TP00 | SPST Off-Mom. | 3.3 mm          | Vertical       | Gold over nickel plate | No cap                  |
| FP11SPA1B1TP02 | SPST Off-Mom. | 3.3 mm          | Right angle    | Gold over nickel plate | Black cap (bulk bagged) |
| FP11SPC1B1TP02 | SPST Off-Mom. | 3.3 mm          | Vertical       | Gold over nickel plate | Black cap (bulk bagged) |
| FP11SPA1B1TP03 | SPST Off-Mom. | 3.3 mm          | Right angle    | Gold over nickel plate | Red cap (bulk bagged)   |
| FP11SPC1B1TP03 | SPST Off-Mom. | 3.3 mm          | Vertical       | Gold over nickel plate | Red cap (bulk bagged)   |

## 8020 Series

### Snap-acting Momentary Pushbutton Switches



#### Features/Benefits

- Positive tactile feel
- Epoxy terminal seal compatible with bottom wash cleaning
- Operating life 60,000 cycles
- Contact rating

Gold: 0.4 VA max. @ 20 V AC or DC max.

Gold over silver: 1AMP @ 120 V AC or 28 V DC

#### Typical Applications

- Telecommunications and networking equipment
- Computers peripherals
- Instrumentation and controls

| Part Number  | Function     | Actuator or Bushing | Bushing          | Mounting Style/Termination | Contact Material | Cap / Frame Color |
|--------------|--------------|---------------------|------------------|----------------------------|------------------|-------------------|
| 8121SHZGE    | SPDT On-Mom. | Plunger             | .250" high, flat | Solder lug                 | Gold over silver | None              |
| 8125SHZBE    | SPDT On-Mom. | Plunger             | .250" high, flat | Solder lug                 | Gold             | None              |
| 8221SHZGE    | DPDT On-Mom. | Plunger             | .250" high, flat | Solder lug                 | Gold over silver | None              |
| 8121J81ZGE22 | SPDT On-Mom. | Snap-in with frame  | None             | Solder lug                 | Gold over silver | Black / Black     |
| 8125SHCBE    | SPDT On-Mom. | Plunger             | .250" high, flat | PC thru-hole               | Gold             | None              |

## 8060 Series

### Alternate Action and Momentary Pushbutton Switches



#### Features/Benefits

- Long travel
- Epoxy terminal seal compatible with bottom wash cleaning
- Operating life 50,000 cycles
- Contact rating

Silver: 6 AMPS @ 120 V AC or 28 V DC; 3 AMPS @ 250 V A C

Gold over silver: 0.4 VA max. @ 20 V AC or DC max. or  
6 AMPS @ 120 V AC or 28 V DC; 3 AMPS @ 250 V AC

#### Typical Applications

- Telecommunications and networking equipment
- Computers peripherals
- Instrumentation and controls

| Part Number | Function     | Actuator or Bushing                    | Bushing                     | Termination | Contact Material | Cap   |
|-------------|--------------|----------------------------------------|-----------------------------|-------------|------------------|-------|
| 8161SHZQE2  | SPDT On-On   | .710" high plunger with .375" dia. cap | .300" high, flat, hi torque | Solder lug  | Silver           | Black |
| 8168LHZQE2  | SPDT On-Mom. | .740" high plunger with .395" dia. cap | .300" high, flat, hi torque | Solder lug  | Silver           | Black |
| 8168SHZQE2  | SPDT On-Mom. | .710" high plunger with .375" dia. cap | .300" high, flat, hi torque | Solder lug  | Gold over silver | Black |
| 8168SHZQE2  | SPDT On-Mom. | .710" high plunger with .375" dia. cap | .300" high, flat, hi torque | Solder lug  | Silver           | Black |

## PS Series

### Push Switches



#### Features/Benefits

- Compact miniature size
- Momentary or latching
- Shorting or non-shorting

#### Typical Applications

- Automotive interior lighting
- Computer peripherals
- Appliances
- Consumer electronics

| Part Number     | Function        | Footprint    | Height  | Operating Force | Operating Life | Total Travel |
|-----------------|-----------------|--------------|---------|-----------------|----------------|--------------|
| PS-12G01        | SPDT, Latching  | 16.8 x 14 mm | 26.4 mm | 400 gf          | 20,000 cycles  | 5 mm         |
| PS-12G03        | SPDT, Latching  | 16.8 x 14 mm | 27.2 mm | 650 gf          | 20,000 cycles  | 4.5 mm       |
| PS-2214-L NS PA | DPDT, Latching  | 5.8 x 5.8 mm | 7.5 mm  | 150 gf          | 10,000 cycles  | 2.3 mm       |
| PS-2214-F NS PA | DPDT, Momentary | 5.8 x 5.8 mm | 7.5 mm  | 150 gf          | 10,000 cycles  | 2.3 mm       |

## AP Series Sealed Industrial Pushbutton Switches



### Features/Benefits

- IP67 sealed
- Operating life 500,000 to 1,000,000 cycles
- Illumination / non-illumination, Multiple colored caps
- SPST, normally open
- Contact Rating: 200mA @ 24 V DC resistive (500,000 cycles)  
100mA @ 50 V DC resistive (500,000 cycles)  
400mA @ 32 V AC resistive (500,000 cycles)  
125mA @ 125 V AC resistive (1,000,000 cycles)

### Typical Applications

- Harsh environments
- Off-Road
- Industrial
- Medical
- Transportation
- Joystick control modules
- Gaming
- Military

| Part Number | Operating Force | Total Travel | Actuator Style | Actuator Color | Bushing Style    | Termination           | Contact Material |
|-------------|-----------------|--------------|----------------|----------------|------------------|-----------------------|------------------|
| AP2D200TWBE | 2 N             | 2.1 ± 0.2 mm | Dome / Convex  | Black          | Threaded plastic | 12" wire leads 22 AWG | Gold             |
| AP4D200TWBE | 4 N             | 2.1 ± 0.2 mm | Dome / Convex  | Black          | Threaded plastic | 12" wire leads 22 AWG | Gold             |
| AP4D200TZBE | 4 N             | 2.1 ± 0.2 mm | Dome / Convex  | Black          | Threaded plastic | Solder lug            | Gold             |
| AP2D300SZBE | 2 N             | 2.1 ± 0.2 mm | Dome / Convex  | Red            | Snap-in plastic  | Solder lug            | Gold             |
| AP4E300TZBE | 4 N             | 2.1 ± 0.2 mm | Extended Dome  | Red            | Threaded plastic | Solder lug            | Gold             |

## NP Series Sealed Industrial Pushbutton Switches



### Features/Benefits

- IP68 sealed
- Multiple housing styles
- Contact Rating  
10mA/5 VDC resistive (1,000,000 cycles)  
1A/32 VDC resistive (100,000 cycles)  
5A/32 VDC resistive (25,000 cycles)  
3A/32 VDC inductive (25,000 cycles)

### Typical Applications

- Harsh environments
- Off-Road
- Industrial
- Transportation
- Military

| Part Number | Operating Force | Total Travel  | Actuator Style | Actuator Color | Housing Style      | Termination                 | Contact Material |
|-------------|-----------------|---------------|----------------|----------------|--------------------|-----------------------------|------------------|
| NP8S2D203QE | 8 N             | 1.6 ± 0.15 mm | Standard       | Black          | Dome bezel         | Solder lug                  | Silver           |
| NP8S2R203QE | 8 N             | 1.6 ± 0.15 mm | Standard       | Black          | Rear mount         | Solder lug                  | Silver           |
| NP8S2T203QE | 8 N             | 1.6 ± 0.15 mm | Standard       | Black          | Std threaded mount | Solder lug                  | Silver           |
| NP8S3D203QE | 8 N             | 1.6 ± 0.15 mm | Standard       | Red            | Dome bezel         | Solder lug                  | Silver           |
| NP8S2D2W4QE | 8 N             | 1.6 ± 0.15 mm | Standard       | Black          | Dome bezel         | 4 x 12" 22 AWG UL 1569 wire | Silver           |

## APB Series Backlit Pushbutton Switches



### Features/Benefits

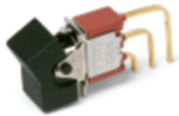
- IP67 sealed
- 1,000,000 life cycle
- Illumination
- Threaded or snap-in mounting
- RoHS compliant

### Typical Applications

- Harsh environments
- Off-Road
- Transportation
- Joystick control modules
- Gaming
- Military

| Part Number     | Operating Force | Total Travel | Cap Symbol * | Actuator Color | Bushing Style    | Termination | Contact Material |
|-----------------|-----------------|--------------|--------------|----------------|------------------|-------------|------------------|
| APB4E01TZBE-001 | 4 N             | 2.1 ± 0.2 mm | Plus         | Black          | Threaded plastic | Solder lug  | Gold             |
| APB4E01TZBE-002 | 4 N             | 2.1 ± 0.2 mm | Lock         | Black          | Threaded plastic | Solder lug  | Gold             |

## 7000 Series Miniature Rocker & Lever Handle Switches



### Features/Benefits

- Multi-pole and multi-position
- Wide variety of actuator and termination options
- Epoxy terminal-seal compatible with bottom wash cleaning
- Contact Rating Gold 0.4 VA MAX. @ 20 V AC OR DC MAX.

Silver 5 AMPS @ 120 V AC OR 28 V DC; 2 AMPS @ 250 V AC

### Typical Applications

- Telecommunications
- Instrumentation
- Medical equipment

| Part Number  | Function        | Actuator          | Mounting Style/Termination         | Contact Material | Electrical Life |
|--------------|-----------------|-------------------|------------------------------------|------------------|-----------------|
| 7101J1AV2QE2 | SPDT On-None-On | .531" long rocker | Vertical right angle, PC thru-hole | Silver           | 100,000 cycles  |
| 7101J1AQE2   | SPDT On-None-On | .531" long rocker | Right angle, PC thru-hole          | Silver           | 100,000 cycles  |
| 7101J1ABE2   | SPDT On-None-On | .531" long rocker | Right angle, PC thru-hole          | Gold             | 100,000 cycles  |

## E Series Sealed Miniature Rocker and Lever Handle Switches



### Features/Benefits

- Sealed against solder and cleaning process contaminants
- ESD Resistance—all actuator options
- Rocker, case & bushing UL 94V-0
- Contact Rating: Gold 0.4 VA max. @ 20 V AC or DC max.

Silver 7.5 AMPS @ 125 V AC or 28 V DC; 3 AMPS @ 250 V AC

### Typical Applications

- Telecommunications
- Instrumentation
- Computers & peripherals

| Part Number  | Function        | Actuator          | Mounting Style/Termination     | Contact Material | Electrical Life |
|--------------|-----------------|-------------------|--------------------------------|------------------|-----------------|
| E101J1AQE2   | SPDT On-None-On | .531" long rocker | Right angle, PC thru-hole      | Silver           | 40,000 cycles   |
| E201J1V31QE2 | DPDT On-None-On | .531" long rocker | .460" high, V-bracket, snap-in | Silver           | 40,000 cycles   |
| E101J3V31QE2 | SPDT On-None-On | .906" long rocker | .460" high, V-bracket, snap-in | Silver           | 40,000 cycles   |

## D Series Miniature Snap-in Power Rocker Switches



### Features/Benefits

- Momentary and maintained models
- PC and quick connect terminals
- Recessed bracket available — prevents accidental actuation
- Contact Rating refer to full line catalog online
- Contact Material Silver

### Typical Applications

- Small appliances
- Computers and peripherals
- Medical instrumentation

| Part Number    | Function          | Mounting Style/Color | Mounting Style/Termination | Markings | Electrical Life |
|----------------|-------------------|----------------------|----------------------------|----------|-----------------|
| D502J12S2AHQA  | SPST, On-None-Off | Snap-in, black       | Right angle, PC thru-hole  | O I      | 10,000 cycles   |
| D101J12S215PQA | SPDT, On-None-On  | Snap-in, black       | PC thru-hole               | O -      | 10,000 cycles   |
| D501J12S2AHQA  | SPDT, On-None-On  | Snap-in, black       | Right angle, PC thru-hole  | O I      | 10,000 cycles   |

Note - this catalog represents a small sample of C&K part numbers. C&K has over 55,000 part numbers available.

Please refer to the C&K full line catalog for a complete list of products and configurations.

Dimensions and specifications subject to change.

## DF Series Power Rocker Switches



### Features/Benefits

- Power switching up to 16 AMPS
- Sub-panel and Front-panel mounting
- Multi-position and multi-pole function
- Available in UL94V-0 grade materials
- Contact Rating 16 AMPS @ 125, 250 V AC; 1/4 HP @ 125 V AC;  
1/2 HP @ 250 V AC; 6 AMPS @ 48 V DC (UL)

### Typical Applications

- Overhead fan on range / hood
- Small and large appliances

| Part Number    | Function     | Housing Style/Color | Mounting Style/Termination | Contact Material | Electrical Life | Markings |
|----------------|--------------|---------------------|----------------------------|------------------|-----------------|----------|
| DF62J12S2AHQA  | DPST, Off-On | Sub-panel, black    | Right angle, PC thru-hole  | Silver (UL)      | 10,000 cycles   | OI       |
| DF62J12S2APQA  | DPST, Off-On | Sub-panel, black    | Right angle, PC thru-hole  | Silver (UL)      | 10,000 cycles   | O-       |
| DF62J12S215PQA | DPST, Off-On | Sub-panel, black    | Quick connect              | Silver (UL)      | 10,000 cycles   | O-       |

## SW Series Power Rocker Switches



### Features/Benefits

- Oval shape
- Several color options (black, white, almond, biscuit)
- Front panel mounting
- Contact rating 6.5 AMP @ 125 V AC

### Typical Applications

- Computers
- Power supplies
- Appliances
- Fitness equipment
- Off-road vehicles

| Part Number      | Function        | Actuator         | Color | Termination   |
|------------------|-----------------|------------------|-------|---------------|
| SW-13A65N-A01 BK | SPDT, On-Off-On | Concave (Curved) | Black | Quick Connect |
| SW-13A65N-A01    | SPDT, On-Off-On | Concave (Curved) | White | Quick Connect |

*Note - this catalog represents a small sample of C&K part numbers. C&K has over 55,000 part numbers available. Please refer to the C&K full line catalog for a complete list of products and configurations. Dimensions and specifications subject to change.*

## A Series 1-4 Pole Rotary Switches



### Features/Benefits

- Multi-pole and multi-position
- Positive detent
- Shorting & non-shortng contacts
- Panel and PCB mounting
- Electrical life 15,000 make-and-break cycles at full load up to 300,000 detent operations

### Typical Applications

- Automotive
- Major and small appliances
- Industrial equipment

| Part Number | Function                             | Contact Rating                                                                    | Mounting Style/Termination | Contact Material | Seal                             |
|-------------|--------------------------------------|-----------------------------------------------------------------------------------|----------------------------|------------------|----------------------------------|
| A10305RNCB  | SP, 30° Index, 3 pos.<br>Non-shortng | 0.4 VA MAX. @ 20 V AC or DC MAX                                                   | PC Thru-hole               | Gold             | None                             |
| A11405RNZQ  | SP, 90° Index, 2 pos.<br>Non-shortng | SWITCH-2.5 AMPS @ 125 V AC; 350 mA @ 125V DC (UL/CSA).<br>CARRY-5 AMPS CONTINUOUS | Solder lug                 | Silver           | None                             |
| A20605RNCQK | DP, 30° Index, 6 pos.<br>Non-shortng | SWITCH-2.5 AMPS @ 125 V AC; 350 mA @ 125V DC (UL/CSA).<br>CARRY-5 AMPS CONTINUOUS | PC Thru-hole               | Silver           | Epoxy & splashproof bushing seal |

## R Series ROTA-SLIDE® Rotary Switches



### Features/Benefits

- Multi-pole and multi-position
- Positive detent
- Panel and PCB mounting
- Enclosed
- Electrical life 10,000 make-and-break cycles at full load
- Contact rating: 5 AMPS @ 125 V AC; 2.5 AMPS @ 250 V AC;  
0.5 AMP @ 125 V DC (UL); 1/8 HP @ 125 and 250 VAC (UL)

### Typical Applications

- Ceiling fans
- Industrial equipment
- Portable tools

| Part Number | Function              | Actuator                         | Mounting Style          | Mounting Style/Termination |
|-------------|-----------------------|----------------------------------|-------------------------|----------------------------|
| R20507RR02Q | DP, 36° Index, 5 pos. | .500" high with .156" flat       | 3/8-32 threaded bushing | PC Thru-hole               |
| R20407RR03Q | DP, 36° Index, 4 pos. | .500" high with .156" flat       | 3/8-32 threaded bushing | Solder lug with hole       |
| R10815RS02Q | SP, 36° Index, 8 pos. | Screwdriver slot without bushing | PC without bushing      | PC Thru-hole               |

## RW Series Subminiature Rotary Switches



### Features/Benefits

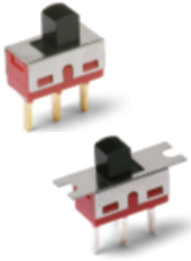
- 8 and 10 position
- Subminiature design

### Typical Applications

- Digital cameras
- Audio visual equipment
- Consumer electronics

| Part Number   | Function           | Contact Rating | Twist Force  | Operating Life | Termination |
|---------------|--------------------|----------------|--------------|----------------|-------------|
| RW-108-NS RT  | 1 pole 8 position  | 0.1A @ 16 V DC | 150 ± 100 gf | 10,000 cycles  | SMT         |
| RW-1106-NS RT | 1 pole 10 position | 10 mA @ 5 V DC | 90 ± 15 gf   | 7,000 cycles   | SMT         |

## 1000 Series Miniature Slide Switches



### Features/Benefits

- Variety of actuators and terminations
- Panel mount tabs available
- Epoxy terminal seal—compatible with bottom-wash cleaning
- Contact Rating Gold 0.4 VA max. @ 20 V AC or DC max.

Silver 6 AMPS @ 120 V AC or 28 V DC, 3 AMPS @ 250 V AC

### Typical Applications

- Test & measurement equipment
- Telecommunications
- Computer & peripherals

| Part Number    | Function        | Mounting Style        | Actuator   | Mounting Style/<br>Termination     | Contact Material | Electrical Life |
|----------------|-----------------|-----------------------|------------|------------------------------------|------------------|-----------------|
| 1101M2S3CQE2   | SPDT On-None-On | PC mount without tabs | .200" high | PC thru-hole                       | Silver           | 40,000 cycles   |
| 1101M2S3CBE2   | SPDT On-None-On | PC mount without tabs | .200" high | PC thru-hole                       | Gold             | 100,000 cycles  |
| 1101M2S3AV2QE2 | SPDT On-None-On | PC mount without tabs | .200" high | Vertical right angle, PC thru-hole | Silver           | 40,000 cycles   |
| 1101M1S3ZQE2   | SPDT On-None-On | Panel mount with tabs | .200" high | Solder lug                         | Silver           | 40,000 cycles   |

## L Series Miniature Slide Switches



### Features/Benefits

- Positive detent
- Enclosed housing
- Maintained and momentary functions
- PC and panel mounting
- Contact Rating 4 AMPS @ 125 V AC or 28 V DC; 2 AMPS @ 250 V AC;  
0.5 AMP @ 125 V DC (UL)

### Typical Applications

- Communications equipment
- Lighting devices

| Part Number  | Function | Actuator   | Mounting Style/Termination | Contact Material | Electrical Life |
|--------------|----------|------------|----------------------------|------------------|-----------------|
| L102011MS02Q | SPDT     | .200" high | PC thru-hole               | Silver           | 10,000 cycles   |
| L202011MS02Q | DPDT     | .200" high | PC thru-hole               | Silver           | 10,000 cycles   |
| L20202MA04Q  | DPDT     | .335" high | Right angle, PC thru-hole  | Silver           | 10,000 cycles   |
| L202031MS02Q | DPDT     | .375" high | PC thru-hole (with detent) | Silver           | 10,000 cycles   |

## V Series Power & Line Voltage Select Slide Switches



### Features/Benefits

- Actuator with screwdriver slot
- Contact Rating 10 GPA @ 125 V AC 50/60 Hz T85;  
5 GPA @ 250 V AC 50/60 Hz T85;  
2 (0.5)A @ 250 VAC 50/60 Hz T85;  
4RA @ 30 VDC T85

### Typical Applications

- Appliances

| Part Number | Function | Mounting Style            | Mounting Style/Termination | Contact Material | Electrical Life |
|-------------|----------|---------------------------|----------------------------|------------------|-----------------|
| V80212MS02Q | DPDT     | PC Thru-hole              | PC thru-hole               | Silver           | 10,000 cycles   |
| V80212MA08Q | DPDT     | Right angle, PC thru-hole | Right angle PC thru-hole   | Silver           | 10,000 cycles   |
| V80212S205Q | DPDT     | Snap-in panel             | Quick connect              | Silver           | 10,000 cycles   |

## AYZ Series Miniature Slide Switches



### Features/Benefits

- Low profile
- Single & double pole models
- Double & triple throw models
- Contact rating 100mA @ 12 V DC

### Typical Applications

- Computer peripherals & network products
- Telecommunication products
- Test & measurement equipment

| Part Number  | Function       | Actuator  | Termination | Contact Material            | Electrical Life |
|--------------|----------------|-----------|-------------|-----------------------------|-----------------|
| AYZ0102AGRLC | SPDT, On-On    | L: 1.0 mm | SMT         | Copper alloy, silver plated | 10,000 cycles   |
| AYZ0202AGRLC | DPDT, On-On    | H: 1.0 mm | SMT         | Copper alloy, silver plated | 10,000 cycles   |
| AYZ0203AGRLC | DP3T, On-On-On | H: 1.0 mm | SMT         | Copper alloy, silver plated | 10,000 cycles   |

## JS Series Sub-Miniature Slide Switches



### Features/Benefits

- Positive detent
- Low profile
- IR reflow to 260° solder profile
- Contact rating 0.3A @ 6 V DC

### Typical Applications

- Telecommunication products
- Computer peripherals
- Thermostat select switch
- Instrumentation

| Part Number  | Function | Mounting Style/Termination | Contact Material            | Electrical Life |
|--------------|----------|----------------------------|-----------------------------|-----------------|
| JS203011CQN  | DP3T     | PC thru-hole               | Copper alloy, silver plated | 5,000 cycles    |
| JS202011SCQN | DPDT     | Surface Mount              | Copper alloy, silver plated | 5,000 cycles    |
| JS202011AQN  | DPDT     | Right angle, PC thru-hole  | Copper alloy, silver plated | 5,000 cycles    |

## OS Series Miniature Slide Switches



### Features/Benefits

- Variety of actuators & terminations
- PC and panel mounting
- Gold or silver plating available
- Shorting or non-shorting contacts
- Contact Rating 0.1A @ 12 V DC

### Typical Applications

- Test & measurement equipment
- Computer peripherals & network products
- Consumer products

| Part Number    | Function                     | Mounting Style | Actuator | Travel | Contact Material            | Electrical Life |
|----------------|------------------------------|----------------|----------|--------|-----------------------------|-----------------|
| OS102011MS2QN1 | SPDT, On-On, Non-shorting    | Vertical       | H: 4 mm  | 2 mm   | Copper alloy, silver plated | 10,000 cycles   |
| OS202011MS2QS1 | DPDT, On-On, Shorting        | Vertical       | H: 4 mm  | 2 mm   | Copper alloy, silver plated | 10,000 cycles   |
| OS103011MS8QP1 | SP3T, On-On-On, Non-shorting | Vertical       | H: 4 mm  | 2 mm   | Copper alloy, silver plated | 10,000 cycles   |
| OS202011MA0QN1 | DPDT, On-On, Non-shorting    | Right angle    | L: 4 mm  | 2 mm   | Copper alloy, silver plated | 10,000 cycles   |

## SS Series Miniature Slide Switches



### Features/Benefits

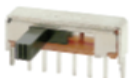
- Various circuit design, SPDT, 4P3T, vertical, right angle
- Compact miniature slide switch
- Shorting or non-shorting
- Custom design available

### Typical Applications

- Consumer electronics
- Computer peripherals
- Telecommunication
- Audio & visual equipment
- Medical

| Part Number            | Function           | Contact Rating | Actuator | Travel | Termination  | Electrical Life |
|------------------------|--------------------|----------------|----------|--------|--------------|-----------------|
| SS-12D07-VG 4 NS GA PA | SPDT, Non-shorting | 0.3A @ 30 V DC | 4 mm     | 2 mm   | PC Thru-hole | 10,000 cycles   |
| SS-12D1505-G 2         | SPDT, Non-shorting | 0.3A @ 6 V DC  | 2 mm     | 2 mm   | PC Thru-hole | 10,000 cycles   |
| SS-14D08-VG 5 PA       | 1P4T               | 0.3A @ 30 V DC | 5 mm     | 2 mm   | PC Thru-hole | 10,000 cycles   |
| SS-22D0205-G 2         | DPDT, Non-shorting | 0.3A @ 6 V DC  | 2 mm     | 2 mm   | PC Thru-hole | 10,000 cycles   |
| SS-22D07-G 2 NS PA     | DPDT, Non-shorting | 0.3A @ 30 V DC | 4 mm     | 2 mm   | PC Thru-hole | 10,000 cycles   |

## SK Series Miniature Slide Switches



### Features/Benefits

- Various circuit design, SPDT, 4P3T, vertical, right angle
- Compact miniature slide switch
- Shorting or non-shorting
- Custom design available

### Typical Applications

- Consumer electronics
- Computer peripherals
- Telecommunication
- Audio & visual equipment
- Medical

| Part Number         | Function           | Contact Rating | Actuator | Travel | Termination  | Electrical Life |
|---------------------|--------------------|----------------|----------|--------|--------------|-----------------|
| SK-12D04-VG 3 NS    | SPDT, Non-shorting | 0.3A @ 30 V DC | 3 mm     | 2 mm   | PC Thru-hole | 10,000 cycles   |
| SK-12D07-G 5 NS PA  | SPDT, Non-shorting | 0.3A @ 30 V DC | 5 mm     | 2 mm   | PC Thru-hole | 10,000 cycles   |
| SK-12D07-VG 4 NS PA | SPDT, Non-shorting | 0.3A @ 30 V DC | 4 mm     | 2 mm   | PC Thru-hole | 10,000 cycles   |
| SK-13D21-G 2 RT     | 1P3T, Non-shorting | 0.3A @ 4 V DC  | 2 mm     | 2 mm   | SMT          | 10,000 cycles   |
| SK-14D01-G6         | 1P4T               | 0.3A @ 30 V DC | 6 mm     | 2 mm   | PC Thru-hole | 10,000 cycles   |

## TF Series Miniature Snap-acting Switches



### Features/Benefits

- Broad range of operating forces
- From low level\* to 21 AMPS @ 277 V AC
- Wide variety of actuator styles

### Typical Applications

- Motor controls
- Thermostatics
- Portable tools

| Part Number   | Function          | Operating Force    | Electrical Rating                                                           | Actuator               | Termination         |
|---------------|-------------------|--------------------|-----------------------------------------------------------------------------|------------------------|---------------------|
| TFCJL3SP004AC | SPDT<br>Momentary | 5.29 oz./150 grams | 20 A, 250 V AC; 1 HP, 125 V AC;<br>2 HP 250 V AC                            | Pin plunger            | .250" quick connect |
| TFCDK6ST2640C | SPDT<br>Momentary | .88 oz./25 grams   | 11 A, 277 V AC; 1/3 HP, 125, 250 V AC;<br>0.5 A, 125 V DC; 0.25 A, 250 V DC | 2.57" lever, low force | .187" quick connect |

## LC Series Subminiature Precision Snap-acting Switches



### Features/Benefits

- Compact design
- Long life and high electrical capacity
- Quick connect, wire lead or PC mounting
- Wide variety of actuator styles

### Typical Applications

- Motorized equipment
- Sump pump
- Thermostatic controls

| Part Number  | Function | Operating Force | Electrical Rating          | Actuator                      | Termination               |
|--------------|----------|-----------------|----------------------------|-------------------------------|---------------------------|
| LCGHF5A10RCE | SPDT     | 6 oz./170 grams | 1 A, 125, V AC, 30 V DC    | .28" lever roller, high force | Right formed PC thru-hole |
| LCGGL9P00EC  | SPDT     | 5 oz./142 grams | 5 A, 1/3 HP, 125, 250 V AC | Pin plunger                   | Solder lug                |

## A Series General Purpose Snap-acting Switches



### Features/Benefits

- Low cost—high performance
- Long electrical life
- Sealed actuator option available

### Typical Applications

- Enclosure equipment
- Garage door openers
- Vending machines

| Part Number | Function | Operating Force  | Electrical Rating                                            | Actuator                | Termination         |
|-------------|----------|------------------|--------------------------------------------------------------|-------------------------|---------------------|
| ASKHC2T04AC | SPDT     | 20 oz./567 grams | 15 A, 125, 250 V AC;<br>3/4 HP, 125 V AC; 1 1/2 HP, 250 V AC | Lever                   | .250" quick connect |
| ADPDC2T04AC | DPDT     | 30 oz./850 grams | 15 A, 125, 250 V AC;<br>3/4 HP, 125 V AC; 1 1/2 HP, 250 V AC | Lever                   | .250" quick connect |
| ASKHC2J04AC | SPDT     | 20 oz./567 grams | 15 A, 125, 250 V AC;<br>3/4 HP, 125 V AC; 1 1/2 HP, 250 V AC | High overtravel plunger | .250" quick connect |

## MS Series Snap-acting Switches



### Features/Benefits

- Detect interlock and movement
- Different lever options
- Various operating forces

### Typical Applications

- Industrial
- Consumer electronics
- Appliances

| Part Number   | Function     | Operating Force | Electrical Rating | Actuator         | Termination  |
|---------------|--------------|-----------------|-------------------|------------------|--------------|
| MS-118305-G   | SP Momentary | 25 gf           | 0.1 A, 30 V DC    | Lever ST 12.5 mm | PC Thru-hole |
| MS-118405-H   | SP Momentary | 25 gf           | 0.1 A, 30 V DC    | Lever SR R1.3    | Solder lug   |
| MS-105A01 (H) | SP Momentary | 230 gf          | 5 A 125 V AC      | Pin plunger      | Solder lug   |

## ZMA Series Subminiature Snap-acting Switches



### Features/Benefits

- Reliable snap-acting mechanism
- Long electrical and mechanical life
- Compact size—Ideal when space is limited
- Various PCB terminals and actuators
- Electrical life 300,000 cycles @ 0.1A / 10,000 cycles @ 3A

### Typical Applications

- PCB detection switch
- Communication devices
- Testing equipment
- Security/Alarm systems
- Consumer electronics

| Part Number    | Function        | Electrical Rating       | Operating Force      | Actuator                | Mounting Style/<br>Termination |
|----------------|-----------------|-------------------------|----------------------|-------------------------|--------------------------------|
| ZMA03A150S07EC | SPDT, Momentary | 3A @ 125 V AC 24 V DC   | 5.29 oz. / 150 grams | Simulated roller 0.75mm | Solder                         |
| ZMA00A150L04PC | SPDT, Momentary | 0.1A @ 125 V AC 60 V DC | 5.29 oz. / 150 grams | Lever 4.55mm            | PC thru-hole                   |
| ZMA03A150A03PC | SPDT, Momentary | 3A @ 125 V AC 24 V DC   | 5.29 oz. / 150 grams | Roller 1.87mm           | PC thru-hole                   |

## LCS Series Subminiature Sealed Snap-acting Switches



### Features/Benefits

- Compact design
- Long life and high electrical capacity
- Quick connect, solder terminals, PC terminals, wire leads
- Wide variety of actuator styles
- IP67
- Electrical life 10,000 cycles

### Typical Applications

- Motorized equipment
- Sump pump
- Thermostatic controls
- Computers
- Air conditioners

| Part Number  | Function | Operating Force | Actuator             | Mounting Style/Termination | Contact Rating        |
|--------------|----------|-----------------|----------------------|----------------------------|-----------------------|
| LCS051P00SDC | SPDT     | 150 grams       | Pin plunger          | Solder                     | 5 AMP, 125/250 V AC   |
| LCS011T05QDC | SPDT     | 150 grams       | Short lever, 17.4 mm | 0.110 Quick Connect        | 0.1 AMP, 125/250 V AC |
| LCS051P00PDC | SPDT     | 150 grams       | Pin plunger          | PC thru Hole               | 5 AMP, 125/250 V AC   |

## DS Series Interlock Pushbutton Switches



### Features/Benefits

- Snap-in mounting
- Reliable snap action mechanism
- Latch or momentary
- Halogen free material

### Typical Applications

- Interlock switch
- Detection switch
- Circuit interrupt

| Part Number | Function | Contact Rating                                                                                                        | Actuator                     | Terminals    |
|-------------|----------|-----------------------------------------------------------------------------------------------------------------------|------------------------------|--------------|
| DS1D6AQ1    | SPDT     | 10 (4)A @125/250 V AC 50/60 Hz 50,000 cycles<br>10A G.P. @ 125 / 250 V AC 1/3HP @ 125/250 V AC 50/60 Hz 10,000 cycles | Momentary, short button      | 4.8 x 0.5 mm |
| DS2D6BQ1    | DPDT     | 10 (4)A @125/250 V AC 50/60 Hz 50,000 cycles<br>10A G.P. @ 125 / 250 V AC 1/3HP @ 125/250 V AC 50/60 Hz 10,000 cycles | Momentary, long button       | 4.8 x 0.5 mm |
| DS2D6CQ1    | DPDT     | 10 (4)A @125/250 V AC 50/60 Hz 50,000 cycles<br>10A G.P. @ 125 / 250 V AC 1/3HP @ 125/250 V AC 50/60 Hz 10,000 cycles | Momentary, pulled out button | 4.8 x 0.5 mm |

**Y Series****4, 5 & 6 Tumbler Switchlocks****Features/Benefits**

- Anti-static switch—exceeds 20 KV DC static resistance
- Momentary models available
- Wire leads and harnesses available
- Contact rating 4 AMPS @ 125 V AC or 28 V DC; 2 AMPS @ 250 V AC (UL/CSA)
- Electrical Life 10,000 make-and-break cycles at full load

**Typical Applications**

- Point-of-sale terminals
- Cash registers
- Computers

| Part Number   | Function                    | Keying                                                                                                       | Lock Type                  | Termination          |
|---------------|-----------------------------|--------------------------------------------------------------------------------------------------------------|----------------------------|----------------------|
| Y201132C203NQ | DP, 90°, keypull pos. 1     | Two nickel plated brass keys (4 & 5 tumbler) or two die cast zinc alloy keys with chrome plating (6 tumbler) | 4 Tumbler lock with detent | Solder lug with hole |
| Y1011U2C203NQ | SP, 90°, keypull pos. 1 & 2 | Two nickel plated brass keys (4 & 5 tumbler) or two die cast zinc alloy keys with chrome plating (6 tumbler) | 4 Tumbler lock with detent | Solder lug with hole |
| Y101132C203NQ | SP, 90°, keypull pos. 1     | Two nickel plated brass keys (4 & 5 tumbler) or two die cast zinc alloy keys with chrome plating (6 tumbler) | 4 Tumbler lock with detent | Solder lug with hole |

**P Series****4 Tumbler Snap-in Switchlocks****Features/Benefits**

- Snap-in mounting
- Multi-pole and multi-position
- Positive detent
- Contact rating Silver 4 AMPS @ 125 V AC or 28 V DC; 2 AMPS @ 250 AC V AC (UL).  
Gold 0.4 VA MAX. @ 20 V AC or DC MAX. or 4 AMPS @ 125 V AC or 28 V DC; 2 AMPS @ 250 V AC (UL)
- Electrical life 10,000 make-and-break cycles at full load

**Typical Applications**

- Computers
- Business machines
- Communication equipment

| Part Number    | Function                      | Keying                                                                                             | Lock Type                  | Termination | Contact Material |
|----------------|-------------------------------|----------------------------------------------------------------------------------------------------|----------------------------|-------------|------------------|
| P10113TCM03Q22 | SP, 90° Index, keypull pos. 1 | One nickel plated brass key with insert molded plastic square head and one nickel plated brass key | 4 Tumbler lock with detent | Solder lug  | Silver           |
| P101132CM03Q2  | SP, 90° Index, keypull pos. 1 | Two nickel plated brass keys                                                                       | 4 Tumbler lock with detent | Solder lug  | Silver           |
| P201132CM03G2  | DP, 90° Index, keypull pos. 1 | Two nickel plated brass keys                                                                       | 4 Tumbler lock with detent | Solder lug  | Gold over silver |

Note - this catalog represents a small sample of C&K part numbers. C&K has over 55,000 part numbers available.

Please refer to the C&K full line catalog for a complete list of products and configurations.

Dimensions and specifications subject to change.

## KXT3 Series

### Ultra Low Profile Top Actuated Tact Switch



#### Features/Benefits

- Smallest footprint 3.0 x 2.0 mm
- 0.6 mm thickness
- High number of cycles

#### Typical Applications

- Wearable electronics
- In-Ear headphones, Earbuds
- Portable Electronics
- Hearing Aids

| Part Number | Operating Force | Contact Material | Tactile Feeling | Operating Life | Travel         |
|-------------|-----------------|------------------|-----------------|----------------|----------------|
| KXT 311 LHS | 100 ± 50 gf     | Silver           |                 | 300,000 cycles | 0.13 ± 0.05 mm |
| KXT 321 LHS | 160 ± 50 gf     | Silver           |                 | 500,000 cycles | 0.13 ± 0.05 mm |
| KXT 331 LHS | 240 ± 70 gf     | Silver           |                 | 500,000 cycles | 0.13 ± 0.05 mm |

## KMT0 Series

### Nano-miniature SMT Top Actuated Tact Switch



#### Features/Benefits

- 3.0 x 2.06 mm footprint
- IP68
- Ultra low current capabilities

#### Typical Applications

- Mobile Phones
- Hearing Aids
- MP3 accessories
- Bluetooth Headset

| Part Number   | Operating Force | Contact Material | Tactile Feeling | Operating Life | Travel        |
|---------------|-----------------|------------------|-----------------|----------------|---------------|
| KMT011NGJ LHS | 1.0 ± 0.25 N    | Silver           | 10%             | 300,000 cycles | 0.15 ± 0.1 mm |
| KMT031NGJ LHS | 3.4 ± 0.25 N    | Silver           | 30%             | 300,000 cycles | 0.15 ± 0.1 mm |
| KMT071NGJ LHS | 2.3 ± 0.25 N    | Silver           | 30%             | 300,000 cycles | 0.15 ± 0.1 mm |

## KMR Series

### Microminiature SMT Top Actuated



#### Features/Benefits

- IP40 or IP67 sealing
- Optional ground pin
- Ultra low current capabilities
- Heights: 1.9 mm & 2.5 mm

#### Typical Applications

- Automotive
- Consumer
- Industrial electronics
- Medical equipment

| Part Number | Operating Force | Contact Material | Operating Life | Travel        |
|-------------|-----------------|------------------|----------------|---------------|
| KMR211G LFS | 1.2 ± 0.30 N    | Silver           | 200,000 cycles | 0.20 ± 0.1 mm |
| KMR221G LFS | 2.0 ± 0.50 N    | Silver           | 200,000 cycles | 0.25 ± 0.1 mm |
| KMR231G LFS | 3.0 ± 0.75 N    | Silver           | 150,000 cycles | 0.25 ± 0.1 mm |

## KMS Series

### Microminiature SMT Side Actuated



#### Features/Benefits

- Compact size
- Excellent tactile feel
- Positioning pegs for stability
- IP 40 sealing

#### Typical Applications

- Medical handheld monitors
- Consumer electronics
- Telecommunication networks

| Part Number | Operating Force | Contact Material | Tactile Feeling | Operating Life | Travel         |
|-------------|-----------------|------------------|-----------------|----------------|----------------|
| KMS221G LFS | 2.0 ± 0.5 N     | Silver           | 15%             | 100,000 cycles | 0.25 ± 0.15 mm |
| KMS231G LFS | 3.0 ± 0.6 N     | Silver           | 25%             | 100,000 cycles | 0.30 ± 0.15 mm |

## KSR Series Microminiature SMT Top Actuated



### Features/Benefits

- 4 actuation forces
- N.O. and N.C.
- Rubber actuator
- IP 50 sealed

### Typical Applications

- Automotive
- Medical equipment
- Industrial electronics
- Smart meters

| Part Number    | Operating Force | Contact Material | Switch Function | Operating Life | Travel         |
|----------------|-----------------|------------------|-----------------|----------------|----------------|
| KSR221G LFS    | 2.2 N           | Silver           | Normally open   | 100,000 cycles | 0.30 ± 0.15 mm |
| KSR231G LFS    | 3.0 N           | Silver           | Normally open   | 100,000 cycles | 0.35 ± 0.15 mm |
| KSR251G LFS    | 4.5 N           | Silver           | Normally open   | 100,000 cycles | 0.50 ± 0.15 mm |
| KSR223GNC LFG  | 2.0 N           | Gold             | Normally closed | 30,000 cycles  | 0.30 ± 0.15 mm |
| KSR221G NC LFS | 2.25 N          | Silver           | Normally closed | 30,000 cycles  | 0.30 ± 0.15 mm |

## KSS Series Subminiature SMT Side Actuated



### Features/Benefits

- Low profile
- 3 actuation forces
- IP 40 sealed

### Typical Applications

- Mobile phone
- Industrial electronics
- Health diagnostic electronics

| Part Number | Operating Force | Contact Material | Switch Function | Operating Life | Travel         |
|-------------|-----------------|------------------|-----------------|----------------|----------------|
| KSS221G LFS | 2.0 ± 0.5 N     | Silver           | Normally open   | 100,000 cycles | 0.30 ± 0.15 mm |
| KSS231G LFS | 2.5 ± 0.5 N     | Silver           | Normally open   | 100,000 cycles | 0.30 ± 0.10 mm |
| KSS241G LFS | 4.0 ± 1 N       | Silver           | Normally open   | 100,000 cycles | 0.30 ± 0.15 mm |

## KSE Series High Performance Sealed Tact Switch



### Features/Benefits

- Low profile
- IP 67
- Height 3.1 mm & 4.3 mm

### Typical Applications

- Smart meters
- Home appliances / Consumer electronics
- Industrial electronics
- Telecommunications

| Part Number | Operating Force | Operating Life | Travel            |
|-------------|-----------------|----------------|-------------------|
| KSEM31J LFS | 1.5 ± 0.5 N     | 300,000 cycles | 0.3 + 0.1/-0.2 mm |
| KSEK43G LFS | 2.25 ± 0.75 N   | 300,000 cycles | 0.30 ± 0.2 mm     |

## KSC4V2 Series Side Actuated Sealed Tact Switch



### Features/Benefits

- Full SMD side actuated
- Haptic adaptability
- Pin in paste terminations
- IP 67

### Typical Applications

- Automotive
- Industrial
- Telecommunication networks
- Network infrastructure and IT

| Part Number     | Operating Force | Contact Material | Operating Life | Travel       |
|-----------------|-----------------|------------------|----------------|--------------|
| KSC441V2SPD LFS | 3.5 ± 1.0 N     | Silver           | 300,000 cycles | 0.7 ± 0.2 mm |

Other options: height, force, travel, operating life available on request

## KSC Series

### Sealed Tact Switches for SMT



#### Features/Benefits

- Positive tactile feeling
- Range of 6 actuation forces
- IP 67
- Gullwing option available for each part number

#### Typical Applications

- Automotive
- Cellular phones
- Industrial electronics
- Network infrastructure and IT

| Part Number      | Operating Force (Min/Max) | Actuator Height | Operating Life | Travel         |
|------------------|---------------------------|-----------------|----------------|----------------|
| KSC241J LFS      | 3.5 ± 0.9 N               | 3.5 ± 0.2 mm    | 300,000 cycles | 0.5 ± 0.2 mm   |
| KSC321J LFS      | 1.6 N                     | 3.47 ± 0.2 mm   | 300,000 cycles | 0.2 ± 0.3 mm   |
| KSC441J 70SH LFS | 4 ± 1 N                   | 5.2 ± 0.2 mm    | 300,000 cycles | 0.75 ± 0.25 mm |
| KSC441J ST2 LFS  | 3.4 ± 1 N                 | 5.2 ± 0.2 mm    | 300,000 cycles | 0.35 ± 0.20 mm |
| KSC641J LFS      | 3.4 ± 1 N                 | 7.7 ± 0.2 mm    | 300,000 cycles | 0.4 ± 0.2 mm   |
| KSC941J LFS      | 3.4 ± 0.85 N              | 7.7 ± 0.2 mm    | 300,000 cycles | 0.4 ± 0.2 mm   |

Other options: height, force, travel, operating life available on request

Product configurations shown are not limited to example above, please refer to the full line catalog, website or C&K sales representative

## KSC8 Series

### SMD Sealed Tact Switch for Adjustable Height



#### Features/Benefits

- SMD switch
- Excellent haptic based on hard actuator and features silicon membrane networks
- Overload resistance
- IP 67

#### Typical Applications

- Automotive
- Industrial
- Telecommunication networks
- Network infrastructure and IT

| Part Number    | Operating Force | Contact Material | Operating Life | Travel       |
|----------------|-----------------|------------------|----------------|--------------|
| KSC821J OL LFS | 1.7 ± 0.5 N     | Silver           | 300,000 cycles | 0.4 ± 0.2 mm |
| KSC831J OL LFS | 2.55 ± 0.65 N   | Silver           | 300,000 cycles | 0.4 ± 0.2 mm |
| KSC841J OL LFS | 3.4 ± 0.85 N    | Silver           | 300,000 cycles | 0.4 ± 0.2 mm |

## KSA / KSJ Series

### High Performance Sealed Tact Switch



#### Features/Benefits

- Designed for automatic or manual insertion
- Cambered terminals to ensure self retention
- Large choice of caps

#### Typical Applications

- Automotive
- Industrial
- Telecommunication networks

| Part Number      | Operating Force | Contact Material | Operating Life | Travel         |
|------------------|-----------------|------------------|----------------|----------------|
| KSA0M411 LFT     | 3 ± 0.75 N      | Silver           | 100,000 cycles | 0.6 ± 0.2 mm   |
| KSA0M211 LFT     | 1.4 ± 0.4 N     | Silver           | 100,000 cycles | 0.5 ± 0.2 mm   |
| KSA0M311 LFT     | 1.4 ± 0.4 N     | Silver           | 100,000 cycles | 0.5 ± 0.2 mm   |
| KSA0M332 LFT     | 1.3 ± 0.3 N     | Gold             | 100,000 cycles | 0.5 ± 0.15 mm  |
| KSJ0M41180SH LFT | 3.3 ± 0.8 N     | Silver           | 100,000 cycles | 0.55 ± 0.25 mm |

**K8 Series****Lighted SMT Tact Switch with Rugged LED Mounting Process****Features/Benefits**

- LED qualified for automotive applications
- Various LED options
- No light perturbation
- Sound and haptic
- Various climatic classes

**Typical Applications**

- Automotive
- Network equipment
- Telecommunications
- Medical equipment
- Industrial controls

| Part Number  | Operating Force | Operating Life | Travel         |
|--------------|-----------------|----------------|----------------|
| K8xx41G LFS* | 4 N             | 300,000 cycles | 0.45 ± 0.15 mm |

**K5AT Series****Illuminated Tact Switch****Features/Benefits**

- High bright LEDs
- Reduced space usage on board

**Typical Applications**

- Network infrastructure, Servers
- Medical

| Part Number  | Operating Force | Contact Material | LED   | Travel | Termination |
|--------------|-----------------|------------------|-------|--------|-------------|
| K5AT WH 43 G | 4 N             | Gold             | White | 0.5 mm | SMT         |
| K5AT GA 43 G | 4 N             | Gold             | Green | 0.5 mm | SMT         |

**ITS Series****Illuminated Pushbutton****Features/Benefits**

- Vertical and right angle
- Thru-hole and SMT models
- Multiple caps and legends
- Several LED colors and bi-color options

**Typical Applications**

- Consumer electronics
- Server/storage
- Medical devices
- Test/Masurement/Instrumentation

| Part Number | LED Color      | Mounting Style/Termination            | Operating Life | Operating Force |
|-------------|----------------|---------------------------------------|----------------|-----------------|
| ITS10FV1ST  | Red            | Vertical thru-hole                    | 50,000 cycles  | 160gf ± 50gf    |
| ITS13FV2SR  | Red / Green    | Vertical SMT Gullwing                 | 50,000 cycles  | 160gf ± 50gf    |
| ITS50FV3SR  | White          | Vertical SMT Gullwing with J bend LED | 50,000 cycles  | 160gf ± 50gf    |
| ITS23FR1ST  | Yellow / Green | Right angle thru-hole                 | 50,000 cycles  | 160gf ± 50gf    |
| ITS40FR2ST  | Blue           | Right angle thru-hole 2.5mm leads     | 50,000 cycles  | 160gf ± 50gf    |

**K5V Series****Illuminated Tact Switch****Features/Benefits**

- High bright LEDs
- Reduced space usage on board
- Excellent ergonomics

**Typical Applications**

- Network infrastructure, Servers
- Automotive
- Medical

| Part Number      | Operating Force | Contact Material | LED          | Travel | Termination  |
|------------------|-----------------|------------------|--------------|--------|--------------|
| K5V 1 BU 43 T    | 4 N             | Gold             | Blue         | 1.2 mm | PC Thru-hole |
| K5V 1 BA 43 T P3 | 4 N             | Gold             | Blue-Amber   | 1.2 mm | PC Thru-hole |
| K5V 1 YG 43 T    | 4 N             | Gold             | Yellow-Green | 1.2 mm | PC Thru-hole |
| K5V 5 WH 43 G    | 4 N             | Gold             | White        | 1.2 mm | SMT          |
| K5V 4 BU 43 G P3 | 4 N             | Gold             | Blue         | 1.2 mm | SMT          |

## KT Series SMT Tact Switch



### Features/Benefits

- Rubber or hard plastic actuator
- Press fit or snap fit caps
- Easy to pick & place with top plate tab

### Typical Applications

- Telecommunications
- Computer products
- Instrumentation

| Part Number         | Actuator     | Orientation   | Mounting Bracket            | Contact Material | Termination |
|---------------------|--------------|---------------|-----------------------------|------------------|-------------|
| KT11 B2 SAM 34 LFS  | Soft 2.24 mm | Side actuated | -                           | Silver           | SMT         |
| KT11 P3 SA1M 34 LFS | Hard 1.12 mm | Side actuated | Front solder pad            | Silver           | SMT         |
| KT11 P4 SA2M 35 LFG | Hard 3.96 mm | Side actuated | Solder pad and pick & place | Gold             | SMT         |
| KT11 B0 SA3M 34 LFS | Soft Flush   | Side actuated | Pick and place Tab          | Silver           | SMT         |
| KT11 P3 SM 34 LFS   | Hard 1.12 mm | Top actuated  | Gullwing                    | Silver           | SMT         |

## PTS125 Series Miniature SMT Top Actuated



### Features/Benefits

- 12 x 12 mm
- Four different heights
- THT and SMT termination
- Snap fit actuator option

### Typical Applications

- Computer products
- Industrial
- Consumer products
- Instrumentation

| Part Number            | Total Height | Operating Force | Operating Life | Termination |
|------------------------|--------------|-----------------|----------------|-------------|
| PTS125SJM73 SMTR-2 LFS | 7.3 mm       | 180 gf          | 200,000 cycles | SMT         |
| PTS125SK43-2 LFS       | 4.3 mm       | 250 gf          | 200,000 cycles | THT         |

## PTS525 Series Microminiature SMT Top Actuated



### Features/Benefits

- Long life
- Compact package of 5.25 x 5.25 mm saves PCB space

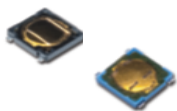
### Typical Applications

- Consumer products/ Hand-held devices
- Instrumentation
- Computer products

| Part Number        | Operating Force | Total Height | Operating Life   | Travel        |
|--------------------|-----------------|--------------|------------------|---------------|
| PTS525SM15SMTR2LFS | 160 gf          | 1.5 mm       | 1,000,000 cycles | 0.25 ± 0.2 mm |

## PTS530 Series

### Ultra Low Profile SMT Top Actuated



#### Features/Benefits

- 4.5 x 4.5 mm footprint
- 0.55 mm thickness
- High number of cycles
- Symbol line identification

#### Typical Applications

- MP3 accessories
- Bluetooth headset
- Remote controls
- Garage door opener

| Part Number        | Termination Style | Operating Force | Operating Life   | Travel                |
|--------------------|-------------------|-----------------|------------------|-----------------------|
| PTS530GM055SMTRLFS | Gullwing          | 160 ± 30 gf     | 1,000,000 cycles | 0.2mm - 0.1 /+ 0.15mm |
| PTS530GK055SMTRLFS | Gullwing          | 260 ± 30 gf     | 200,000 cycles   | 0.2mm - 0.1 /+ 0.15mm |

## PTS540 Series

### Microminiature SMT Top Actuated



#### Features/Benefits

- 3.7 x 3.7 mm footprint
- High number of cycles

#### Typical Applications

- MP3 accessories
- Bluetooth headset
- Remote controls

| Part Number        | Total Height | Operating Force | Operating Life | Travel          |
|--------------------|--------------|-----------------|----------------|-----------------|
| PTS540JM035SMTRLFS | 0.35 mm      | 160 ± 50 gf     | 500,000 cycles | 0.15 +/- 0.1 mm |
| PTS540JK035SMTRLFS | 0.35 mm      | 230 ± 50 gf     | 300,000 cycles | 0.15 +/- 0.1 mm |

## PTS641 Series

### Miniature SMT Top Actuated



#### Features/Benefits

- 6.3 x 6.3 mm footprint
- Multiple heights
- Ground pin option

#### Typical Applications

- Metering
- White goods
- Home and garden equipment

| Part Number        | Total Height | Operating Force | Operating Life | Ground Pin |
|--------------------|--------------|-----------------|----------------|------------|
| PTS641SM31SMTR2LFS | 3.1 mm       | 160 gf          | 100,000 cycles | No         |
| PTS641TK25SMTR2LFS | 2.5 mm       | 250 gf          | 100,000 cycles | No         |

## PTS645 Series

### Miniature SMT Top / Side Actuated



#### Features/Benefits

- Compact size 6 x 6 mm
- Variety of actuator lengths
- Choice of actuator force

#### Typical Applications

- Computer products
- Industrial
- Consumer products
- Instrumentation

| Part Number          | Total Height | Operating Force | Operating Life | Termination |
|----------------------|--------------|-----------------|----------------|-------------|
| PTS645SL43SMTR92 LFS | 4.3 mm       | 130 gf          | 100,000 cycles | SMT         |
| PTS645VK31-2 LFS     | 3.15 mm      | 260 gf          | 100,000 cycles | Vertical    |

## PTS810 Series

### Microminiature SMT Top Actuated



#### Features/Benefits

- 4.2 x 3.2 mm footprint
- 2.5 mm thickness
- High number of cycles
- Color coded actuators

#### Typical Applications

- Control panels
- Nomad devices
- Remote controls
- Keyless entry system

| Part Number         | Actuator Color | Operating Force | Operating Life | Travel         |
|---------------------|----------------|-----------------|----------------|----------------|
| PTS810SJM250SMTRLFS | Gray           | 160 ± 50 gf     | 150,000 cycles | 0.15mm ± 0.1mm |
| PTS810SJK250SMTRLFS | White          | 260 ± 70 gf     | 50,000 cycles  | 0.15mm ± 0.1mm |

## PTS820 Series

### Microminiature SMT Top Actuated



#### Features/Benefits

- 3.9 x 2.9 mm footprint
- Three different heights
- High number of cycles
- Reduced footprint

#### Typical Applications

- Control panels
- Nomad devices
- Remote controls
- Keyless entry system

| Part Number       | Total Height | Pegs | Operating Force | Operating Life |
|-------------------|--------------|------|-----------------|----------------|
| PTS820J25MSMTRLFS | 2.5 mm       | No   | 160 ± 50 gf     | 200,000 cycles |
| PTS820J25KSMTRLFS | 2.5 mm       | No   | 250 ± 50 gf     | 100,000 cycles |

## PTS840 Series

### Microminiature SMT Side Actuated



#### Features/Benefits

- 3.5 x 3.55 mm footprint
- Front PIP leads option for strong shear resistance
- ESD pin option

#### Typical Applications

- Nomad devices
- Remote controls
- Personal health diagnostics
- Consumer electronics

| Part Number         | Operating Force   | Operating Life | Ground | Termination Style | Pegs |
|---------------------|-------------------|----------------|--------|-------------------|------|
| PTS840PMSMTR LFS    | 160 gf -40/+70gf  | 100,000 cycles | No     | P                 | No   |
| PTS840PKSMTR LFS    | 220 gf -70/+80 gf | 100,000 cycles | No     | P                 | No   |
| PTS840GMPMTR LFS    | 160 gf -40/+70gf  | 100,000 cycles | No     | G                 | Yes  |
| PTS840GKPSMTR LFS   | 220 gf -70/+80 gf | 100,000 cycles | No     | G                 | Yes  |
| PTS840ESDPMSMTR LFS | 160 gf -40/+70gf  | 100,000 cycles | Yes    | P                 | No   |

## 7000 Series Miniature Toggle Switch



### Features/Benefits

- Multi-pole and multi-position
- Wide variety of actuator and termination options
- Epoxy terminal-seal compatible with bottom wash cleaning
- Contact Rating: Gold 0.4 VA max. @ 20 V AC or DC max.

Silver 5 AMPS @ 120 V AC or 28 V DC; 2 AMPS @ 250 V AC AC

### Typical Applications

- Telecommunications
- Instrumentation
- Medical equipment

| Part Number | Function        | Actuator                           | Bushing                     | Mounting Style/<br>Termination | Contact<br>Material | Electrical Life |
|-------------|-----------------|------------------------------------|-----------------------------|--------------------------------|---------------------|-----------------|
| 7101SYZQE   | SPDT On-None-On | Round, .420" high                  | .350" high, threaded keyway | Solder lug                     | Silver              | 100,000 cycles  |
| 7201SYZQE   | DPDT On-None-On | Round, .420" high                  | .350" high, threaded keyway | Solder lug                     | Silver              | 100,000 cycles  |
| 7103SYZQE   | SPDT On-Off-On  | Round, .420" high                  | .350" high, threaded keyway | Solder lug                     | Silver              | 40,000 cycles   |
| 7101SYCQE   | SPDT On-None-On | Round, .420" high                  | .350" high, threaded keyway | PC thru-hole                   | Silver              | 100,000 cycles  |
| 7101P3YZQE  | SPDT On-None-On | Flatted, anti-rotation, .450" high | .350" high, threaded keyway | Solder lug                     | Silver              | 100,000 cycles  |

## E Series Sealed Miniature Toggle Switch



### Features/Benefits

- Sealed against solder and cleaning process contaminants
- UL 94V-0 Nylon case and bushing
- ESD protection available
- Contact Rating Gold 0.4 VA max. @ 20 V AC or DC max

Gold over silver 0.4 VA MAX @20 V AC OR DC MAX. OR

7.5 AMPS @125 V AC OR 28 V DC; 3 AMPS @ 250 V AC DC

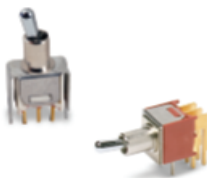
Silver 7.5 AMPS @ 125 V AC OR 28 V DC; 3 AMPS @ 250 V AC

### Typical Applications

- Telecommunications
- Instrumentation
- Medical equipment

| Part Number  | Function            | Actuator   | Bushing                | Mounting Style/Termination         | Contact Material | Electrical Life |
|--------------|---------------------|------------|------------------------|------------------------------------|------------------|-----------------|
| E101MD1ABE   | SPDT, On-None-On    | .300" high | .250" high, unthreaded | Right angle, PC thru-hole          | Gold             | 40,000 cycles   |
| E105SD1CBE   | SPDT, Mom.-Off-Mom. | .500" high | .250" high, unthreaded | PC thru-hole                       | Gold             | 40,000 cycles   |
| E101MD1AV2GE | SPDT, On-None-On    | .300" high | .250" high, unthreaded | Vertical right angle, PC thru-hole | Gold over silver | 40,000 cycles   |
| E101MD1AQE   | SPDT, On-None-On    | .300" high | .250" high, unthreaded | Right angle, PC thru-hole          | Silver           | 40,000 cycles   |
| E103MD1ABE   | SPDT, On-Off-On     | .300" high | .250" high, unthreaded | Right angle, PC thru-hole          | Gold             | 40,000 cycles   |

## T Series Subminiature Toggle Switch



### Features/Benefits

- Compact size—small footprint
- Single and double pole models
- PC and panel mount options available
- Contact rating: Gold 0.4 VA MAX. @ 20 V AC OR DC MAX.

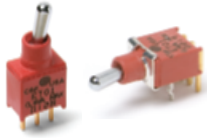
Silver options up to 3 AMPS @ 120 V AC OR 28 V DC

### Typical Applications

- Telecommunications
- Instrumentation
- Medical equipment

| Part Number | Function           | Actuator   | Bushing                      | Mounting Style/Termination         | Contact Material | Electrical Life |
|-------------|--------------------|------------|------------------------------|------------------------------------|------------------|-----------------|
| T102SHZQE   | SPDT Off-None-On   | .370" high | .220" high, threaded, flat   | Solder lug                         | Silver           | 30,000 cycles   |
| T101MH9ABE  | SPDT On-None-On    | .210" high | .220" high, unthreaded, flat | Right angle, PC thru-hole          | Gold             | 60,000 cycles   |
| T105LH9ABE  | SPDT Mom.-Off-Mom. | .290" high | .220" high, unthreaded, flat | Right angle, PC thru-hole          | Gold             | 30,000 cycles   |
| T101MH9AVBE | SPDT On-None-On    | .210" high | .220" high, unthreaded, flat | Vertical right angle, PC thru-hole | Gold             | 60,000 cycles   |
| T211MH9V3BE | DPDT On-On-On.     | .210" high | .220" high, unthreaded, flat | Vertical mount V-bracket           | Gold             | 30,000 cycles   |

## ET Series Sealed Subminiature Toggle Switches



### Features/Benefits

- Sealed against solder and cleaning process contaminants
- ESD protection available
- Thru-hole and surface mount models
- Compact size and small footprint save PCB space
- Contact Rating Gold 0.4 VA MAX. @ 20 V AC OR DC MAX.

Silver 3 AMPS @ 120 V AC OR 28 V DC

### Typical Applications

- Telecommunications
- Instrumentation
- Medical equipment

| Part Number | Function           | Actuator   | Bushing                | Mounting Style/<br>Termination | Contact Material | Electrical Life |
|-------------|--------------------|------------|------------------------|--------------------------------|------------------|-----------------|
| ET01MD1SAPE | SPDT, On-None-On   | .240" high | .177" High, Unthreaded | Right angle, Surface mount     | Gold, matte tin  | 60,000 cycles   |
| ET01MD1CBE  | SPDT, On-None-On   | .240" high | .177" High, Unthreaded | PC thru-hole                   | Gold             | 60,000 cycles   |
| ET01MD1ABE  | SPDT, On-None-On   | .240" high | .177" High, Unthreaded | Right angle, PC thru-hole      | Gold             | 60,000 cycles   |
| ET08LD1CBE  | SPDT, On-None-Mom. | .320" high | .177" High, Unthreaded | PC thru-hole                   | Gold             | 30,000 cycles   |
| ET21MD1AQE  | DPDT, On-None-On   | .240" high | .177" High, Unthreaded | Right angle, PC thru-hole      | Silver           | 60,000 cycles   |

## GT Series Sealed Subminiature Toggle Switches



### Features/Benefits

- Sealed against solder and cleaning process contaminants
- Ultraminiature size, smallest footprint available
- Thru-hole and surface mount models
- High temperature materials (UL 94V-0)
- Contact material gold over nickel

### Typical Applications

- Telecommunications
- Small Instrumentation

| Part Number | Function         | Mounting Style/Termination | Actuation  | Contact Rating                   | Electrical Life |
|-------------|------------------|----------------------------|------------|----------------------------------|-----------------|
| GT11MSABETR | SPDT, On-None-On | Right angle, Surface mount | Horizontal | 0.4 VA max. @ 20 V AC or DC max. | 40,000 cycles   |
| GT11MCBE    | SPDT, On-None-On | PC thru-hole               | -          | 0.4 VA max. @ 20 V AC or DC max. | 40,000 cycles   |
| GT23MAVBE   | DPDT, On-Off-On  | Right angle, PC thru-hole  | Vertical   | 0.4 VA max. @ 20 V AC or DC max. | 40,000 cycles   |
| GT11MSCBETR | SPDT, On-None-On | Surface mount              | Horizontal | 0.4 VA max. @ 20 V AC or DC max. | 40,000 cycles   |

Note - this catalog represents a small sample of C&K part numbers. C&K has over 55,000 part numbers available.

Please refer to the C&K full line catalog for a complete list of products and configurations.

Dimensions and specifications subject to change.

## CCM01 Series Full Size Card Connectors



### Features/Benefits

- Operating life up to 500,000 cycles
- Up to 40N card insertion force
- EMV
- PCI ready
- Card detection sealed switch

### Typical Applications

- Transaction
- Identification
- POS

| Part Number    | Number of Contacts | Termination | Operating Life | Card Insertion Force |
|----------------|--------------------|-------------|----------------|----------------------|
| CCM01-2329 LFT | 8                  | SMT         | 500,000 cycles | 10N                  |

## CCM02 Series Full Size Card Connectors



### Features/Benefits

- Operating life 500,000 cycles
- Up to 40 N card insertion force
- EMV
- PCI & PCI ready
- Card detection sealed switch

### Typical Applications

- Transaction
- Identification
- POS

| Part Number     | Number of Contacts | Termination | Contact Type | PCB version  |
|-----------------|--------------------|-------------|--------------|--------------|
| CCM02-2504 LFT  | 8                  | SMT         | landing      | 4 clips      |
| CCM02-F844 LFT* | 8                  | SMT         | friction     | 4 metal pegs |

\* Includes PCI features I/O Protect and Security Cover

## CCM03 Series SIM/SAM Card Connectors



### Features/Benefits

- SIM/SAM card acceptance
- Hinged and fixed covers
- Compatible with pick and place and lead free soldering
- 6 or 8 contacts

### Typical Applications

- M2M
- POS
- Automotive

| Part Number    | Number of Contacts | Termination | Contact Plating | Cover  | Card Presence Switch | Operating Life |
|----------------|--------------------|-------------|-----------------|--------|----------------------|----------------|
| CCM03-3003 LFT | 8                  | SMT         | inlay           | hinged | without              | 10,000 cycles  |
| CCM03-3009 LFT | 6                  | SMT         | gold            | hinged | without              | 10,000 cycles  |
| CCM03-3013 LFT | 6                  | SMT         | gold            | hinged | with                 | 10,000 cycles  |
| CCM03-3754 LFT | 6                  | SMT         | inlay           | fixed  | with                 | 10,000 cycles  |

## High-Reliability Rectangular Connectors for Space-Level Applications

For nearly 30 years, C&K Components has offered a broad range of high reliability connectors for the aerospace market, including European Space Agency-approved micro-D, single in-line microminiature, and D-subminiature connectors. Currently referenced in 18 ESA specifications, C&K offers more than 3,000 ESA QPL-qualified rectangular connectors for a variety of space applications, from the smallest size research and survey to the largest telecommunication satellites. **Please refer to the Space and High Reliability full line catalog for part numbers, drawings and product specifications on [www.ckswitches.com](http://www.ckswitches.com).**

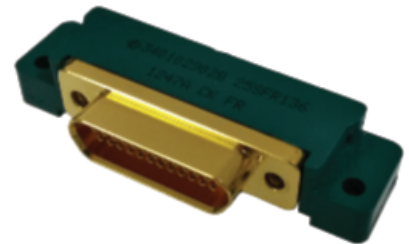
### D-Subminiature Connectors



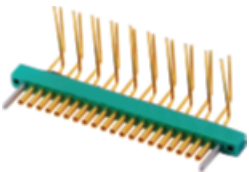
C&K's full line of D\*M and D\*MA Series D-subminiature connectors are employed in satellites and launchers, and meet strict tests for outgassing and residual magnetism. Offered in a variety of contact layouts (including with coax, power or crimp contacts) and shell sizes, the D-sub connectors are available with non-removable and removable contacts, as well as in filtered, pin and socket, and interface configurations.

### Micro-D Connectors

C&K's full line of MDM Series microminiature connectors are frequently employed to connect various modules within satellite systems. The MDM connectors utilize a proven Micropin™ contact system and are offered in a variety of contact layouts. To date, C&K is the only company that offers ESA-qualified rectangular micro-d microminiature connectors.



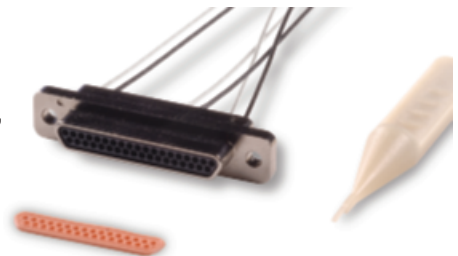
### Single In-Line Microminiature Connectors



Utilized in satellites as a connection between PCBs, C&K's MTB1 micro-strip single in-line microminiature connectors also employ a high performance Micropin™ contact system and meet stringent requirements for outgassing and residual magnetism. The connectors are suitable for board-to-board, board-to-cable, and cable-to-cable applications. To date, C&K is the only company that offers ESA-qualified micro-strip single in-line microminiature connectors.

### Rectangular Microminiature Connectors with Removable Contacts

Employed in various space equipment applications, C&K's MDMA rectangular micro-miniature feature removable crimp contacts compliant with ESA/ESCC specifications, along with the highly reliable Micropin™ twist pin contact system. The MDMA connectors are guaranteed to meet 'zero defect' criteria.



### Space Splice



A compact, easy-to-use alternative to manual splicing, the one-way Space Splice high-reliability connectors deliver high radiation and temperature resistance, low residual magnetism, and low degassing, and — manufactured in accordance with ESA/ESCC specifications — meet the highest quality requirements for satellite, payload, and other harsh environment applications, including: laboratory, avionics, military, and medical equipment. An EPPL2 (ESA/ESCC European Preferred Part List Part 2) product, the series accepts the most popular cable gauges (AWG 20 – AWG 30) and employs removable, D\*MA crimpable contact technology that allows for both manual and guiding-tool-assisted insertion.

## Part Number List

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|----------------|-------------|----------------|-------------|
| 1101M1S3ZQE2   | 35          | CRD16CM0SBR    | 26          |
| 1101M2S3AV2QE2 | 35          | D101J12S215PQA | 32          |
| 1101M2S3CBE2   | 35          | D501J12S2AHQA  | 32          |
| 1101M2S3CQE2   | 35          | D502J12S2AHQA  | 32          |
| 7101J1ABE2     | 32          | D6C90 F1 LFS   | 27          |
| 7101J1AQE2     | 32          | D6L90 F1 LFS   | 27          |
| 7101J1AV2QE2   | 32          | D6R10 F1 LFS   | 27          |
| 7101P3YZQE     | 48          | D6R90 F1 LFS   | 27          |
| 7101SYCQE      | 48          | DF62J12S215PQA | 33          |
| 7101SYZQE      | 48          | DF62J12S2AHQA  | 33          |
| 7103SYZQE      | 48          | DF62J12S2APQA  | 33          |
| 7201SYZQE      | 48          | DS1D6AQ1       | 39          |
| 8121J81ZGE22   | 30          | DS2D6BQ1       | 39          |
| 8121SHZGE      | 30          | DS2D6CQ1       | 39          |
| 8125SHCBE      | 30          | E101J1AQE2     | 32          |
| 8125SHZBE      | 30          | E101J3V31QE2   | 32          |
| 8161SHZQE2     | 30          | E101MD1ABE     | 48          |
| 8168LHZQE2     | 30          | E101MD1AQE     | 48          |
| 8168SHZGE2     | 30          | E101MD1AV2GE   | 48          |
| 8168SHZQE2     | 30          | E103MD1ABE     | 48          |
| 8221SHZGE      | 30          | E105SD1CBE     | 48          |
| A10305RNCB     | 34          | E201J1V31QE2   | 32          |
| A11405RNZQ     | 34          | EP11SD1ABE     | 29          |
| A20605RNCQK    | 34          | EP11SD1AVBE    | 29          |
| ADPDC2T04AC    | 38          | EP11SD1CBE     | 29          |
| AP2D200TWBE    | 31          | EP11SD1SAPE    | 29          |
| AP2D300SZBE    | 31          | EP12SD1ABE     | 29          |
| AP4D200TWBE    | 31          | ET01MD1ABE     | 49          |
| AP4D200TZBE    | 31          | ET01MD1CBE     | 49          |
| AP4E300TZBE    | 31          | ET01MD1SAPE    | 49          |
| ASKHC2J04AC    | 38          | ET08LD1CBE     | 49          |
| ASKHC2T04AC    | 38          | ET21MD1AQE     | 49          |
| AYZ0102AGRLC   | 36          | FP11SPA1B1TP02 | 29          |
| AYZ0202AGRLC   | 36          | FP11SPA1B1TP03 | 29          |
| AYZ0203AGRLC   | 36          | FP11SPC1B1TP00 | 29          |
| BPA01B         | 25          | FP11SPC1B1TP02 | 29          |
| BPA04B         | 25          | FP11SPC1B1TP03 | 29          |
| BPA05SB        | 25          | GT11MCBE       | 49          |
| CCM01-2329 LFT | 50          | GT11MSABETR    | 49          |
| CCM02-2504LFT  | 50          | GT11MSCBETR    | 49          |
| CCM02-F844LFT  | 50          | GT23MAVBE      | 49          |
| CCM03-3003 LFT | 50          | HDT0001        | 22          |
| CCM03-3009LFT  | 50          | ITS10FV1ST     | 44          |
| CCM03-3013LFT  | 50          | ITS13FV2SR     | 44          |
| CCM03-3754LFT  | 50          | ITS23FR1ST     | 44          |
| CD10RM0SBR     | 26          | ITS40FR2ST     | 44          |
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| CRD10RM0CB     | 26          | JS202011AQN    | 36          |

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| JS203011CQN              | 36          | KSR221G LFS            | 42          |
| K12A BK 1 5N             | 27          | KSR221G NC LFS         | 42          |
| K12C 1 5N                | 27          | KSR223GNC LFG          | 42          |
| K12GO BK 1.5 6/12N       | 27          | KSR231G LFS            | 42          |
| K12P BK 1 5N             | 27          | KSR251G LFS            | 42          |
| K12PL WH 1.5 5N LV302    | 27          | KSS221G LFS            | 42          |
| K12SB S 1.5 3.5N C LFTX  | 27          | KSS231G LFS            | 42          |
| K12SB S 1.5 9N O LFTX    | 27          | KSS241G LFS            | 42          |
| K12SC L 1.5WHO 9N O LFTX | 27          | KSU213WLFG             | 22          |
| K12SC D 1.5 4/8N OO LFTX | 27          | KT11 B0 SA3M 34 LFS    | 45          |
| K5AT GA 43 G             | 44          | KT11 B2 SAM 34 LFS     | 45          |
| K5AT WH 43 G             | 44          | KT11 P3 SA1M 34 LFS    | 45          |
| K5V 1 BA 43 T P3         | 44          | KT11 P3 SM 34 LFS      | 45          |
| K5V 1 BU 43 T            | 44          | KT11 P4 SA2M 35 LFG    | 45          |
| K5V 1 YG 43 T            | 44          | KXT3                   | 41          |
| K5V 4 BU 43 G P3         | 44          | L102011MS02Q           | 35          |
| K5V 5 WH 43 G            | 44          | L202011MS02Q           | 35          |
| K8xx41GLFS               | 44          | L20202MA04Q            | 35          |
| KM1202A08BE              | 23          | L202031MS02Q           | 35          |
| KM1202A08QE              | 23          | LCGGL9P00EC            | 38          |
| KMR211G LFS              | 41          | LCGHF5A10RCE           | 38          |
| KMR221G LFS              | 41          | LCS011T05QDC           | 39          |
| KMR231G LFS              | 41          | LCS051P00PDC           | 39          |
| KMS221G LFS              | 41          | LCS051P00SDC           | 39          |
| KMS231G LFS              | 41          | MPS45WGW               | 24          |
| KMT011NGJ LHS            | 41          | MS-105A01 (H)          | 38          |
| KMT031NGJ LHS            | 41          | MS-118305-G            | 38          |
| KMT071NGJ LHS            | 41          | MS-118405-H            | 38          |
| KSA0M211LFT              | 43          | NP8S2D203QE            | 31          |
| KSA0M311LFT              | 43          | NP8S2D2W4QE            | 31          |
| KSA0M332LFT              | 43          | NP8S2R203QE            | 31          |
| KSA0M411LFT              | 43          | NP8S2T203QE            | 31          |
| KSC241JLFS               | 43          | NP8S3D203QE            | 31          |
| KSC321JLFS               | 43          | OS102011MS2QN1         | 37          |
| KSC441J 70SH LFS         | 43          | OS103011MS8QP1         | 37          |
| KSC441J ST2 LFS          | 43          | OS202011MA0QN1         | 37          |
| KSC441V2SPDLFS           | 42          | OS202011MS2QS1         | 37          |
| KSC4D2J50SH              | 23          | P101132CM03Q2          | 40          |
| KSC641J LFS              | 43          | P101132TCM03Q22        | 40          |
| KSC821J OL LFS           | 43          | P201132CM03G2          | 40          |
| KSC831J OL LFS           | 43          | PS-12G01               | 30          |
| KSC841J OL LFS           | 43          | PS-12G03               | 30          |
| KSC941J LFS              | 43          | PS-2214-F NS PA        | 30          |
| KSEK43LFS                | 42          | PS-2214-L NS PA        | 30          |
| KSEM31JLFS               | 42          | PTS125SJM73 SMTR-2 LFS | 45          |
| KSJ0M41180SHLFT          | 43          | PTS125SK43-2 LFS       | 45          |
| KSJ0VD180SH LFT          | 23          | PTS525SM15SMTR2LFS     | 45          |

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| PTS530GK055SMTRLFS     | 46          | SS-22D0205-G 2    | 37          |
| PTS540JK035SMTRLFS     | 46          | SS-22D07-G 2 NS   | 37          |
| PTS540JM035SMTRLFS     | 46          | STKWH             | 28          |
| PTS641SM31SMTR2LFS     | 46          | SW-13A65N-A01 BK  | 33          |
| PTS641TK25SMTR2LFS     | 46          | SW-13A65N-A01     | 33          |
| PTS645SL43SMTR92 LFS   | 46          | T101MH9ABE        | 48          |
| PTS645VK31-2 LFS       | 46          | T101MH9AVBE       | 48          |
| PTS810SJM250SMTRLFS    | 47          | T102SHZQE         | 48          |
| PTS810SJK250SMTRLFS    | 47          | T105LH9ABE        | 48          |
| PTS820J25MSMTRLFS      | 47          | T211MH9V3BE       | 48          |
| PTS820J25KSMTRLFS      | 47          | TDA04H0SB1R       | 25          |
| PTS840PMSMTRLFS        | 47          | TDA08H0SB1R       | 25          |
| PTS840PKSMTRLFS        | 47          | TDA10H0SB1R       | 25          |
| PTS840GMPSMTRLFS       | 47          | TFCDK6ST2640C     | 38          |
| PTS840GKPSMTRLFS       | 47          | TFCJL3SP004AC     | 38          |
| PTS840ESDPMSMTRLFS     | 47          | TP11SH8ABE        | 29          |
| PVA1EEH1 3.5N V2       | 28          | TP11SH9ABE        | 29          |
| PVA1OAH1 1.2N V2       | 28          | TP11SH9CBE        | 29          |
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| R10815RS02Q            | 34          | TSWA-3N-CD23 LFS  | 9           |
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| R20507RR02Q            | 34          | V80212MA08Q       | 35          |
| RB-220-07 R            | 24          | V80212MS02Q       | 35          |
| RB-231X2               | 24          | V80212S205Q       | 35          |
| RB-441-45              | 24          | Y101132C203NQ     | 40          |
| RTE0400N04             | 26          | Y1011U2C203NQ     | 40          |
| RTE1002G14             | 26          | Y201132C203NQ     | 40          |
| RTE1600V44             | 26          | ZMA00A150L04PC    | 39          |
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| SDA03H0SBR             | 25          |                   |             |
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| SK-12D04-VG 3 NS       | 37          |                   |             |
| SK-12D07-G 5 NS PA     | 37          |                   |             |
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| SK-13D21-G 2 RT        | 37          |                   |             |
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| SS-12D07-VG 4 NS GA PA | 37          |                   |             |
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# Limited Warranty

## Products Only

C&K Components, Inc. (C&K) warrants its products against defects in manufacturing if the products are used for the purpose for which they were manufactured and sold. C&K will, at its option, repair or replace any of its products with a manufacturing defect. This warranty shall expire one year from the date of shipment. THIS WARRANTY IS IN LIEU OF ALL WARRANTIES, WRITTEN OR ORAL, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ALL OF WHICH ARE HEREBY EXCLUDED. SPECIFICATIONS AND PRODUCT LITERATURE REFERRING TO, ATTACHED TO OR FURNISHED WITH PRODUCTS ARE DESCRIPTIVE ONLY AND SHALL NOT BE TREATED AS WARRANTIES. The purchaser or subsequent owner or user's sole and exclusive right or remedy shall be limited to the furnishing of replacements for products found defective by C&K. No oral waiver or modification of this warranty shall have any effect whatsoever, regardless of by whom such waiver or modification is given.

This warranty is void if any modification is made on the warranted product, regardless of whether the modification causes or contributes to the alleged defect. All modifications are made at the risk of the party making the modification. Purchaser indemnifies and holds harmless from all claims or causes of action arising from modifications made to products which are not under the control of C&K. If purchaser buys and resells the product, purchaser agrees to inform its customers that C&K makes no express or implied warranties because of the modification. C&K's warranty is also void if product failure results from acts or omissions of persons other than C&K, or from accident, acts of nature, abuse, misuse or misapplication of the product.

## Customer Communication

15 Riverdale Ave. Newton, MA 02458.

For product information, inquiries & quotes, order or contract amendment handling customer feedback, customer complaints: Contact Customer Service 617.969.3700, Fax 617.969.6600, Web Address: [www.ck-components.com](http://www.ck-components.com)

## Terms and Conditions of Sale with Limitations of Remedy and Liability

1. The warranty provided above, or any warranty duly provided by C&K, shall constitute the sole remedy of purchaser and any subsequent owner or user of the product; and shall be the sole liability of C&K, whether in contract, tort, strict liability, under warranty or otherwise. In no event shall C&K's liability exceed the amount of the purchase price paid to C&K by the purchaser for the allegedly defective product. C&K shall not be liable under any circumstance for special, indirect or circumstantial damages, including loss of profit or production.
2. Purchaser and any subsequent owner of the product shall have no claim against C&K for any labor, downtime or expenses of any kind arising from any C&K default whatsoever, including delay shipment.
3. No agreements of sale or contract shall exist between C&K and purchaser until accepted by C&K. All such agreements shall be deemed to take place in Massachusetts, regardless of the origin or destination of the product.
4. Notwithstanding any term or condition imposed or set forth by purchaser's documents or purchase order, C&K objects and takes exception to any provision therein which conflicts with or is in addition to C&K's Terms and Conditions of Sale with Limitations of Remedy and Liability. C&K's performance of any purchase order is conditional upon the purchaser accepting all C&K's said terms, conditions and limitations. Failure of the purchaser to object to these Terms and Conditions of Sale with Limitations of Remedy and Liability within seven (7) days shall constitute full and final acceptance thereof by purchaser.

5. Purchaser agrees to notify all subsequent owners and users taking through purchaser of these Terms and Conditions of Sale with Limitations of Remedy and Liability and, failing to do so, shall indemnify and hold C&K harmless from all claims or causes of action by such persons which are applicable to said terms, conditions and limitations.

6. No product shall be returned to C&K without its prior permission. No cancellations or reschedules to open orders are permitted within factory lead time. Orders are to be scheduled for delivery within 12 months from order date.

7. Delivery schedules are subject to prior sale and circumstances in effect at the time the purchase order is accepted by C&K. C&K shall not be held responsible for delays in delivery due to strikes; work stoppages; fires; floods; accidents; inability to obtain materials, fuels or transportation; government edict; civil unrest or any other cause unavoidable or beyond the control of C&K. C&K shall not be liable for any damages or costs based upon late delivery including instances where C&K has been informed in advance of the consequences.

8. Unless otherwise agreed by C&K, all payments shall be in U.S. currency in immediate funds. Payment terms, unless otherwise agreed by C&K, shall be as specified on C&K's invoices. All amounts remaining unpaid beyond said terms shall accrue interest at the rate of one and one-half (1-1/2) percent per month or the highest lawful interest rate, whichever is lesser, until paid in full. C&K's prices are exclusive of sales, excise, use, occupation, value-added or any other taxes levied on sales transactions. Purchaser must pay all such applicable taxes unless it provides C&K with a valid, current exemption certificate. C&K shall have no obligation to contest or withhold such taxes on behalf of the purchaser.

9. Unless otherwise specified, all shipments are F.O.B. shipping point. Loading or special packaging charges shall be for the account of purchaser. Title to and possession of the product, including all risk of loss, shall pass to purchaser upon delivery to the carrier at the point of shipment.

10. C&K retains a security interest in all products shipped to secure payment of the purchase price and all other amounts owed by purchaser to C&K. Purchaser agrees to cooperate with C&K in protecting this security interest.

11. Any and all indemnities for the benefit of C&K hereunder shall include attorneys' fees and costs, including third party and expert witness fees. Furthermore, purchaser shall reimburse C&K for its costs and attorneys' fees in collecting any sums owed by purchaser to C&K, or for enforcing these Terms and Conditions of Sale with Limitations of Remedy and Liability.



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