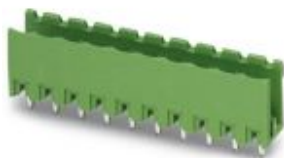


## Feed-through header - MSTBV 2,5/ 9-G - 1753576

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PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm



The figure shows a 10-position version of the product

### Your advantages

- ✓ Maximum flexibility when it comes to device design – one header for connectors with different connection technologies
- ✓ Well-known mounting principle allows worldwide use
- ✓ Vertical connection enables multi-row arrangement on the PCB
- ✓ Items that can be aligned in various pitches support flexible and space-saving PCB assembly
- ✓ Easy PCB replacement thanks to plug-in modules



### Key Commercial Data

|              |                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------|
| Packing unit | 100 pc                                                                                                  |
| GTIN         | <br>4 017918 028442 |
| GTIN         | 4017918028442                                                                                           |

### Technical data

#### Item properties

|                           |                     |
|---------------------------|---------------------|
| Brief article description | Feed-through header |
| Plug-in system            | CLASSIC COMBICON    |
| Type of contact           | Male connector      |
| Range of articles         | MSTBV 2,5/...-G     |
| Pitch                     | 5 mm                |
| Number of positions       | 9                   |
| Mounting type             | Wave soldering      |
| Pin layout                | Linear pinning      |
| Locking                   | without             |
| Number of levels          | 1                   |

# Feed-through header - MSTBV 2,5/ 9-G - 1753576

## Technical data

### Item properties

|                       |   |
|-----------------------|---|
| Number of connections | 9 |
| Number of potentials  | 9 |

### Electrical parameters

|                             |       |
|-----------------------------|-------|
| Nominal current             | 12 A  |
| Nom. voltage                | 320 V |
| Rated voltage               | 320 V |
| Rated voltage (III/2)       | 320 V |
| Rated voltage (II/2)        | 630 V |
| Rated surge voltage (III/3) | 4 kV  |
| Rated surge voltage (III/2) | 4 kV  |
| Rated surge voltage (II/2)  | 4 kV  |

### Material data - contact

|                                             |                                                                                   |
|---------------------------------------------|-----------------------------------------------------------------------------------|
| Note                                        | WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/ JEDEC JESD 201 |
| Contact material                            | Cu alloy                                                                          |
| Surface characteristics                     | Tin-plated                                                                        |
| Metal surface contact area (top layer)      | Tin (3 - 5 µm Sn)                                                                 |
| Metal surface contact area (middle layer)   | Nickel (1.3 - 3 µm Ni),                                                           |
| Metal surface soldering area (top layer)    | Tin (3 - 5 µm Sn)                                                                 |
| Metal surface soldering area (middle layer) | Nickel (1.3 - 3 µm Ni)                                                            |

### Material data - housing

|                                                                   |              |
|-------------------------------------------------------------------|--------------|
| Housing color                                                     | green (6021) |
| Insulating material                                               | PA           |
| Insulating material group                                         | I            |
| CTI according to IEC 60112                                        | 600          |
| Flammability rating according to UL 94                            | V0           |
| Glow wire flammability index GWFI according to EN 60695-2-12      | 850          |
| Glow wire ignition temperature GWIT according to EN 60695-2-13    | 775          |
| Temperature for the ball pressure test according to EN 60695-10-2 | 125 °C       |

### Dimensions for the product

|                             |          |
|-----------------------------|----------|
| Length [ l ]                | 8.6 mm   |
| Width [ w ]                 | 45 mm    |
| Height [ h ]                | 15.9 mm  |
| Pitch                       | 5 mm     |
| Height (without solder pin) | 12 mm    |
| Solder pin [P]              | 3.9 mm   |
| Pin dimensions              | 1 x 1 mm |

### Dimensions for PCB design

|               |        |
|---------------|--------|
| Hole diameter | 1.4 mm |
|---------------|--------|

# Feed-through header - MSTBV 2,5/ 9-G - 1753576

## Technical data

### Packaging information

|                            |                     |
|----------------------------|---------------------|
| Type of packaging          | packed in cardboard |
| Pieces per package         | 100                 |
| Denomination packing units | Pcs.                |

### Ambient conditions

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Ambient temperature (storage/transport) | -40 °C ... 70 °C                                    |
| Ambient temperature (assembly)          | -5 °C ... 100 °C                                    |
| Ambient temperature (operation)         | -40 °C ... 100 °C (dependent on the derating curve) |

### Air clearances and creepage distances

|                                                 |                     |
|-------------------------------------------------|---------------------|
| Clearances and creepage distances               | IEC 60664-1:2007-04 |
| Specification                                   | IEC 60664-1:2007-04 |
| Minimum clearance - inhomogeneous field (III/3) | 3 mm                |
| Minimum clearance - inhomogeneous field (III/2) | 3 mm                |
| Minimum clearance - inhomogeneous field (II/2)  | 3 mm                |
| Minimum creepage distance value (III/3)         | 4 mm                |
| Minimum creepage distance value (III/2)         | 3 mm                |
| Minimum creepage distance value (II/2)          | 3.2 mm              |

### Mechanical tests (A)

|                                              |             |
|----------------------------------------------|-------------|
| Test specification                           | IEC 61984   |
| Insertion strength per pos. approx.          | 8 N         |
| Withdraw strength per pos. approx.           | 6 N         |
| Polarization when inserted requirement >20 N | Test passed |
| Contact holder in insert requirements >20 N  | Test passed |

### Durability tests (B)

|                                              |                       |
|----------------------------------------------|-----------------------|
| Specification                                | IEC 60512-9-1:2010-03 |
| Contact resistance R <sub>1</sub>            | 2.1 mΩ                |
| Insertion/withdrawal cycles                  | 25                    |
| Contact resistance R <sub>2</sub>            | 2.3 mΩ                |
| Impulse withstand voltage at sea level       | 4.8 kV                |
| Power-frequency withstand voltage            | 2.21 kV               |
| Insulation resistance, neighboring positions | > 0,4 TΩ              |

### Thermal tests (C)

|                                                 |                       |
|-------------------------------------------------|-----------------------|
| Specification                                   | IEC 60512-5-1:2002-02 |
| Number of positions                             | 18                    |
| Conductor cross section                         | 2.5 mm <sup>2</sup>   |
| Upper limiting temperature requirements <100 °C | Test passed           |

### Climatic tests (D)

|               |                  |
|---------------|------------------|
| Specification | ISO 6988:1985-02 |
| Cold stress   | -40 °C/2 h       |

## Feed-through header - MSTBV 2,5/ 9-G - 1753576

### Technical data

#### Climatic tests (D)

|                                        |                                                                           |
|----------------------------------------|---------------------------------------------------------------------------|
| Thermal stress                         | 100 °C/168 h                                                              |
| Corrosive stress                       | 0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle |
| Impulse withstand voltage at sea level | 4.8 kV                                                                    |
| Power-frequency withstand voltage      | 2.21 kV                                                                   |

#### Environmental and durability tests (E)

|                                       |                                     |
|---------------------------------------|-------------------------------------|
| Specification                         | IEC 61984:2008-10                   |
| Result, degree of protection, IP code | Finger safety with IP20 test finger |

#### Standards and Regulations

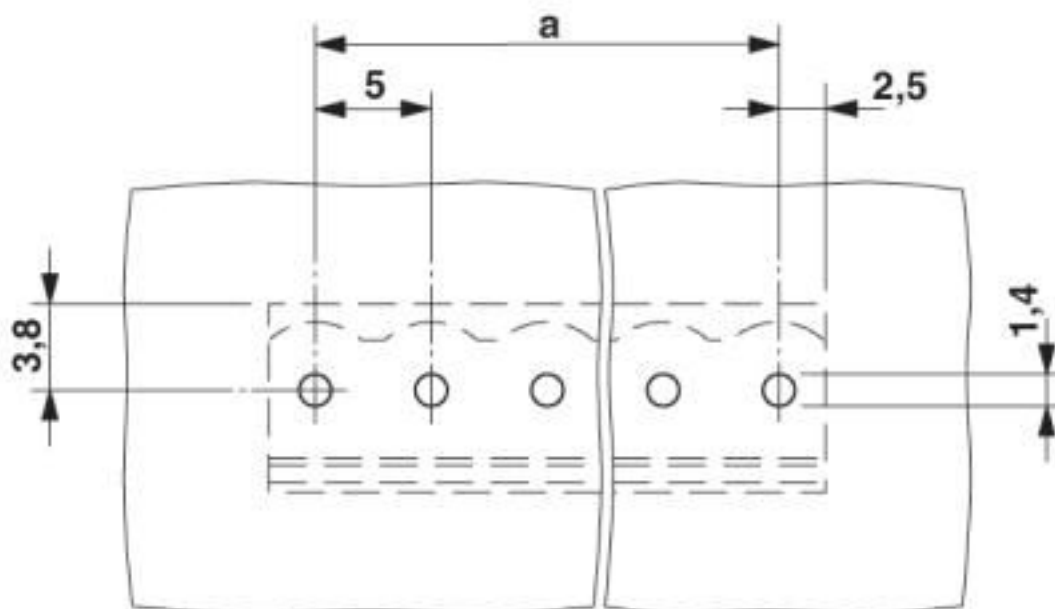
|                                        |        |
|----------------------------------------|--------|
| Connection in acc. with standard       | EN-VDE |
|                                        | CSA    |
| Flammability rating according to UL 94 | V0     |

#### Environmental Product Compliance

|            |                                                         |
|------------|---------------------------------------------------------|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
|            | No hazardous substances above threshold values          |

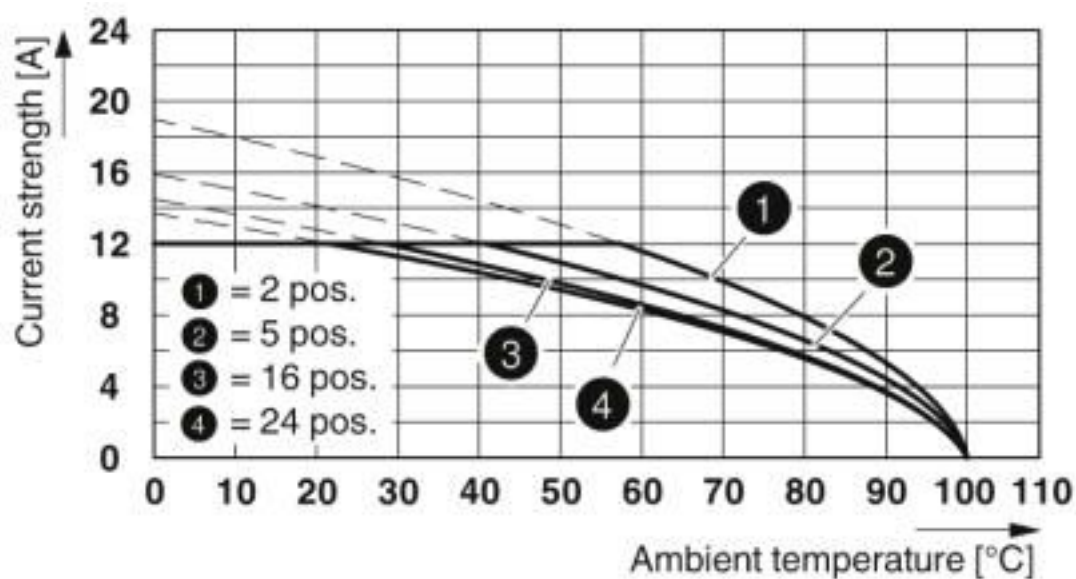
### Drawings

Drilling diagram



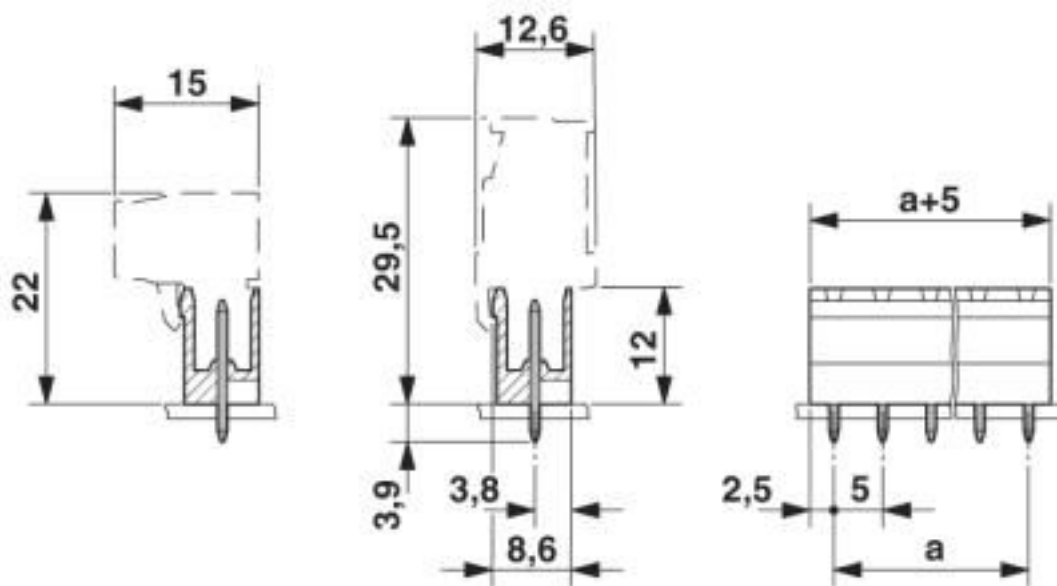
## Feed-through header - MSTBV 2,5/ 9-G - 1753576

Diagram



Type: MSTB 2,5/...-ST with MSTBV 2,5/...-G

Dimensional drawing



## Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27440402 |
| eCl@ss 4.0    | 27260700 |
| eCl@ss 4.1    | 27260700 |
| eCl@ss 5.0    | 27260700 |

## Feed-through header - MSTBV 2,5/ 9-G - 1753576

### Classifications

#### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 5.1 | 27260700 |
| eCl@ss 6.0 | 27260700 |
| eCl@ss 7.0 | 27440402 |
| eCl@ss 8.0 | 27440402 |
| eCl@ss 9.0 | 27440402 |

#### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC001121 |
| ETIM 4.0 | EC002637 |
| ETIM 5.0 | EC002637 |
| ETIM 6.0 | EC002637 |
| ETIM 7.0 | EC002637 |

#### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30211810 |
| UNSPSC 7.0901 | 39121409 |
| UNSPSC 11     | 39121409 |
| UNSPSC 12.01  | 39121409 |
| UNSPSC 13.2   | 39121409 |
| UNSPSC 18.0   | 39121409 |
| UNSPSC 19.0   | 39121409 |
| UNSPSC 20.0   | 39121409 |
| UNSPSC 21.0   | 39121409 |

### Approvals

#### Approvals

#### Approvals

CSA / IECCEB CB Scheme / EAC / cULus Recognized / VDE Zeichengenehmigung

#### Ex Approvals

#### Approval details

|                    |                                                                                     |                                                                                                                                         |       |
|--------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-------|
| CSA                |  | <a href="http://www.csagroup.org/services-industries/product-listing/">http://www.csagroup.org/services-industries/product-listing/</a> | 13631 |
|                    | B                                                                                   | D                                                                                                                                       |       |
| Nominal voltage UN | 300 V                                                                               | 300 V                                                                                                                                   |       |

## Feed-through header - MSTBV 2,5/ 9-G - 1753576

### Approvals

|                    |      |      |
|--------------------|------|------|
|                    | B    | D    |
| Nominal current IN | 12 A | 10 A |

|                    |                     |                                                           |                |
|--------------------|---------------------|-----------------------------------------------------------|----------------|
| IECEE CB Scheme    | <b>CB</b><br>scheme | <a href="http://www.iecee.org/">http://www.iecee.org/</a> | DE1-60988-B1B2 |
| Nominal voltage UN | 250 V               |                                                           |                |
| Nominal current IN | 12 A                |                                                           |                |

|     |            |         |
|-----|------------|---------|
| EAC | <b>EAC</b> | B.01687 |
|-----|------------|---------|

|                    |              |                                                                                                                                                       |                 |
|--------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| cULus Recognized   | <b>cULus</b> | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | E60425-19931011 |
|                    | B            | D                                                                                                                                                     |                 |
| Nominal voltage UN | 300 V        | 300 V                                                                                                                                                 |                 |
| Nominal current IN | 12 A         | 10 A                                                                                                                                                  |                 |

|                        |                                                                                     |                                                                                                                                                                                                           |          |
|------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| VDE Zeichengenehmigung |  | <a href="http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx">http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx</a> | 40050648 |
| Nominal voltage UN     | 250 V                                                                               |                                                                                                                                                                                                           |          |
| Nominal current IN     | 12 A                                                                                |                                                                                                                                                                                                           |          |

### Accessories

Accessories

Coding element

Coding section - CR-MSTB - 1734401

Coding section, inserted into the recess in the header or the inverted plug, red insulating material



Filler plug

## Feed-through header - MSTBV 2,5/ 9-G - 1753576

### Accessories

Accessories - MSTB-BL - 1755477



Keying cap, for forming sections, plugs onto header pin, green insulating material

---

### Labeled terminal marker

Marker card - SK 5/3,8:FORTL.ZAHLEN - 0804183



Marker card, Card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... (99)100, mounting type: adhesive, for terminal block width: 5 mm, lettering field size: 5 x 3.8 mm

---

### Marker pen

Marker pen - B-STIFT - 1051993



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

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### Terminal marking

Marker card - SK 5/3,8:UNBEDRUCKT - 0805409

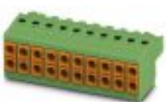


Marker card, Card, white, unlabeled, can be labeled with: Marker pen, mounting type: adhesive, for terminal block width: 5 mm, lettering field size: 5 x 3.8 mm

---

### Additional products

Printed-circuit board connector - TVFKC 1,5/ 9-ST - 1713907



PCB connector, nominal current: 10 A, rated voltage (III/2): 320 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 9, pitch: 5 mm, connection method: Push-in spring connection, color: green, contact surface: Tin

## Feed-through header - MSTBV 2,5/ 9-G - 1753576

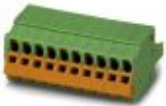
### Accessories

#### Printed-circuit board connector - TVFKCL 1,5/ 9-ST - 1715992



PCB connector, nominal current: 10 A, rated voltage (III/2): 320 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 9, pitch: 5 mm, connection method: Push-in spring connection, color: green, contact surface: Tin

#### Plug - QC 1,5/ 9-ST - 1718038



PCB connector, nominal current: 12 A, rated voltage (III/2): 630 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 9, pitch: 5 mm, connection method: Displacement connection, color: green, contact surface: Tin

#### Printed-circuit board connector - FKCN 2,5/ 9-ST - 1732810



PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5 mm, connection method: Push-in spring connection, color: green, contact surface: Tin

#### Printed-circuit board connector - MSTB 2,5/ 9-ST - 1754588



PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

#### Printed-circuit board connector - MSTB 2,5/ 9-STZ - 1758995



PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

## Feed-through header - MSTBV 2,5/ 9-G - 1753576

### Accessories

#### Plug - MVSTBW 2,5/ 9-STEH - 1763401



PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

---

#### Printed-circuit board connector - MSTBP 2,5/ 9-ST - 1765849



PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

---

#### Printed-circuit board connector - SMSTB 2,5/ 9-ST - 1768820



PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

---

#### Printed-circuit board connector - FRONT-MSTB 2,5/ 9-ST - 1779482



PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5 mm, connection method: Front screw connection, color: green, contact surface: Tin

---

#### Printed-circuit board connector - MSTBT 2,5/ 9-ST - 1779903



PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

## Feed-through header - MSTBV 2,5/ 9-G - 1753576

### Accessories

#### Printed-circuit board connector - MVSTBR 2,5/ 9-ST - 1792087



PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

---

#### Printed-circuit board connector - MVSTBW 2,5/ 9-ST - 1792595



PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

---

#### Printed-circuit board connector - FKCT 2,5/ 9-ST - 1909281



PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5 mm, connection method: Push-in spring connection, color: green, contact surface: Tin

---

#### Printed-circuit board connector - FKCVR 2,5/ 9-ST - 1909786



PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5 mm, connection method: Push-in spring connection, color: green, contact surface: Tin

---

#### Printed-circuit board connector - FKCVW 2,5/ 9-ST - 1910102



PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5 mm, connection method: Push-in spring connection, color: green, contact surface: Tin

## Feed-through header - MSTBV 2,5/ 9-G - 1753576

### Accessories

Printed-circuit board connector - FKCS 2,5/ 9-ST - 1910429



PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5 mm, connection method: Push-in spring connection, color: green, contact surface: Tin

---

Printed-circuit board connector - FKCS 2,5/ 9-ST - 1974805



PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5 mm, connection method: Push-in spring connection, color: green, contact surface: Tin

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PHOENIX CONTACT GmbH & Co. KG  
Flachsmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>

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