

## PCB terminal block - SPT-THR 1,5/ 6-H-5,08 P20 R56 - 1824006

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The figure shows the 10-position version

PCB terminal block, nominal current: 13.5 A, rated voltage (III/2): 320 V, nominal cross section: 1.5 mm<sup>2</sup>, pitch: 5.08 mm, number of positions: 6, connection method: Push-in spring connection, mounting: THR soldering, conductor/PCB connection direction: 0 °, color: black, Pin layout: Linear double pinning, Solder pin [P]: 2 mm

### Your advantages

- ✓ Time saving push-in connection, tools not required
- ✓ Defined contact force ensures that contact remains stable over the long term
- ✓ Intuitive use through colour coded actuation lever
- ✓ Designed for integration into the SMT soldering process
- ✓ Quick and convenient testing using integrated test option
- ✓ Operation and conductor connection from one direction enable integration into front of device
- ✓ Two solder pins reduce the mechanical strain on the soldering spots



### Key Commercial Data

|                        |                                                                                                         |
|------------------------|---------------------------------------------------------------------------------------------------------|
| Packing unit           | 250 pc                                                                                                  |
| Minimum order quantity | 250 pc                                                                                                  |
| GTIN                   | <br>4 046356 814881 |
| GTIN                   | 4046356814881                                                                                           |

### Technical data

#### Item properties

|                           |                           |
|---------------------------|---------------------------|
| Brief article description | PCB terminal block        |
| Range of articles         | SPT 1,5/..-H-THR          |
| Pitch                     | 5.08 mm                   |
| Number of positions       | 6                         |
| Connection method         | Push-in spring connection |
| Mounting type             | THR soldering             |
| Pin layout                | Linear double pinning     |

# PCB terminal block - SPT-THR 1,5/ 6-H-5,08 P20 R56 - 1824006

## Technical data

### Item properties

|                       |   |
|-----------------------|---|
| Number of levels      | 1 |
| Number of connections | 6 |
| Number of potentials  | 6 |

### Electrical parameters

|                             |        |
|-----------------------------|--------|
| Nominal current             | 13.5 A |
| Nom. voltage                | 320 V  |
| Rated voltage               | 250 V  |
| Rated voltage (III/2)       | 320 V  |
| Rated voltage (II/2)        | 500 V  |
| Rated surge voltage (III/3) | 4 kV   |
| Rated surge voltage (III/2) | 4 kV   |
| Rated surge voltage (II/2)  | 4 kV   |

### Connection capacity

|                                                                       |                           |
|-----------------------------------------------------------------------|---------------------------|
| Connection method                                                     | Push-in spring connection |
| Conductor cross section solid                                         | 0.2 mm² ... 1.5 mm²       |
| Conductor cross section flexible                                      | 0.2 mm² ... 1.5 mm²       |
| Conductor cross section AWG / kcmil                                   | 24 ... 16                 |
| Conductor cross section flexible, with ferrule without plastic sleeve | 0.2 mm² ... 1.5 mm²       |
| Conductor cross section, flexible, with ferrule, with plastic sleeve  | 0.2 mm² ... 0.75 mm²      |
| Stripping length                                                      | 8 mm                      |

### 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                  | hot-dip tin-plated                                                                |
| Metal surface terminal point (top layer) | Tin (4 - 8 µm Sn)                                                                 |
| Metal surface soldering area (top layer) | Tin (4 - 8 µm Sn)                                                                 |

### Material data - housing

|                                        |              |
|----------------------------------------|--------------|
| Housing color                          | black (9005) |
| Insulating material                    | LCP          |
| Insulating material group              | IIIa         |
| CTI according to IEC 60112             | 175          |
| Flammability rating according to UL 94 | V0           |

### Dimensions for the product

|                             |         |
|-----------------------------|---------|
| Length [ l ]                | 13.6 mm |
| Width [ w ]                 | 29.4 mm |
| Height [ h ]                | 9.7 mm  |
| Pitch                       | 5.08 mm |
| Height (without solder pin) | 7.7 mm  |

# PCB terminal block - SPT-THR 1,5/ 6-H-5,08 P20 R56 - 1824006

## Technical data

### Dimensions for the product

|                |              |
|----------------|--------------|
| Solder pin [P] | 2 mm         |
| Pin spacing    | 7 mm         |
| Pin dimensions | 0.7 x 0.3 mm |

### Dimensions for PCB design

|               |        |
|---------------|--------|
| Hole diameter | 1.1 mm |
| Pin spacing   | 7 mm   |

### Packaging information

|                             |                                          |
|-----------------------------|------------------------------------------|
| Type of packaging           | 56 mm wide tape                          |
| Pieces per package          | 250                                      |
| Denomination packing units  | Pcs.                                     |
| [W] tape width              | 56 mm                                    |
| [A] coil diameter           | 330 mm                                   |
| [W2] coil overall dimension | 62.4 mm                                  |
| Outer packaging type        | Transparent-Bag                          |
| ESD level                   | (D) electrostatically conductive         |
| Specification               | DIN EN 61340-5-1 (VDE 0300-5-1): 2008-07 |

### General product information

|              |                                                          |
|--------------|----------------------------------------------------------|
| Type of note | Assembly instruction:                                    |
| Note         | This item is not suitable for PCB cleaning with liquids. |

### Processing notes

|                                           |                                          |
|-------------------------------------------|------------------------------------------|
| Process                                   | Reflow/wave soldering                    |
| Specification                             | Following IPC/JEDEC J-STD-020D.1:2008-03 |
|                                           | Following IEC 61760-1:2006-04            |
|                                           | Following IEC 60068-2-58:2005-02         |
| Moisture Sensitive Level                  | MSL 1                                    |
| Classification temperature T <sub>c</sub> | 260 °C                                   |
| Solder cycles in the reflow               | 3                                        |

### Ambient conditions

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

### Termination and connection method

|                                          |                       |
|------------------------------------------|-----------------------|
| Connection test                          | IEC 60998-2-2:2002-12 |
| Test result                              | Test passed           |
| Test for conductor damage and slackening | IEC 60998-2-2:2002-12 |
|                                          | Test passed           |

### Pull-out test

# PCB terminal block - SPT-THR 1,5/ 6-H-5,08 P20 R56 - 1824006

## Technical data

### Pull-out test

|                                                          |                                         |
|----------------------------------------------------------|-----------------------------------------|
| Pull-out test                                            | IEC 60998-2-2:2002-12                   |
|                                                          | Test passed                             |
| Conductor cross section / conductor type / tensile force | 0.2 mm <sup>2</sup> / solid / > 10 N    |
|                                                          | 0.2 mm <sup>2</sup> / flexible / > 10 N |
|                                                          | 1.5 mm <sup>2</sup> / solid / > 40 N    |
|                                                          | 1.5 mm <sup>2</sup> / flexible / > 40 N |

### Mechanical tests according to standard

|                    |                          |
|--------------------|--------------------------|
| Test specification | IEC 60998-2-2 (in parts) |
|--------------------|--------------------------|

### Electrical tests

|                             |                     |
|-----------------------------|---------------------|
| Rated current               | 13.5 A              |
| Conductor cross section     | 1.5 mm <sup>2</sup> |
| Rated voltage (III/2)       | 320 V               |
| Rated surge voltage (III/2) | 4 kV                |

### Air clearances and creepage distances

|                                                 |                       |
|-------------------------------------------------|-----------------------|
| Clearances and creepage distances               | IEC 60947-7-4:2013-08 |
| Specification                                   | IEC 60947-7-4:2013-08 |
| 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)         | 3.2 mm                |
| Minimum creepage distance value (II/2)          | 5 mm                  |

### Temperature-rise test

|                                   |                                |
|-----------------------------------|--------------------------------|
| Specification                     | IEC 60998-2-1:2002-12          |
| Result                            | Test passed                    |
| Requirement temperature-rise test | Increase in temperature ≤ 45 K |

### Current carrying capacity / derating curves

|                     |                                                                                                                                        |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Caption             | Type: SPT-THR 1,5/ 5-H-5,0(5,08) P26<br>Tested according to DIN EN 60512-5-2:2003-01<br>Reduction factor = 1<br>Number of positions: 5 |
| Specification       | Following IEC 60512-5-2:2002-02                                                                                                        |
| Number of positions | 5                                                                                                                                      |
| Reduction factor    | 1                                                                                                                                      |

### Vibration test

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60068-2-6:2007-12 |
| Result        | Test passed           |
| Frequency     | 10 - 150 - 10 Hz      |
| Sweep speed   | 1 octave/min          |

## PCB terminal block - SPT-THR 1,5/ 6-H-5,08 P20 R56 - 1824006

### Technical data

#### Vibration test

|                        |                        |
|------------------------|------------------------|
| Amplitude              | 0.35 mm (10 - 60.1 Hz) |
| Acceleration           | 5 g (60.1 - 150 Hz)    |
| Test duration per axis | 2.5 h                  |

#### Resistance to ageing, humidity and penetration of solids

|            |                 |
|------------|-----------------|
| Dry heat   | 168 h/100°C     |
| Humid heat | 48 h/30 °C/92 % |

#### Insulation resistance

|                                              |                     |
|----------------------------------------------|---------------------|
| Specification                                | IEC 60998-1:2002-12 |
| Result                                       | Test passed         |
| Insulation resistance, neighboring positions | 9 TΩ                |

#### Glow-wire test

|                  |                     |
|------------------|---------------------|
| Specification    | IEC 60998-1:2002-12 |
| Result           | Test passed         |
| Temperature      | 850 °C              |
| Time of exposure | 5 s                 |

#### Mechanical strength/tumbling barrel test

|                       |                     |
|-----------------------|---------------------|
| Specification         | IEC 60998-1:2002-12 |
| Height of fall        | 50 cm               |
| Number of drop cycles | 50                  |
| Rotation speed        | 5 rpm               |

#### Standards and Regulations

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

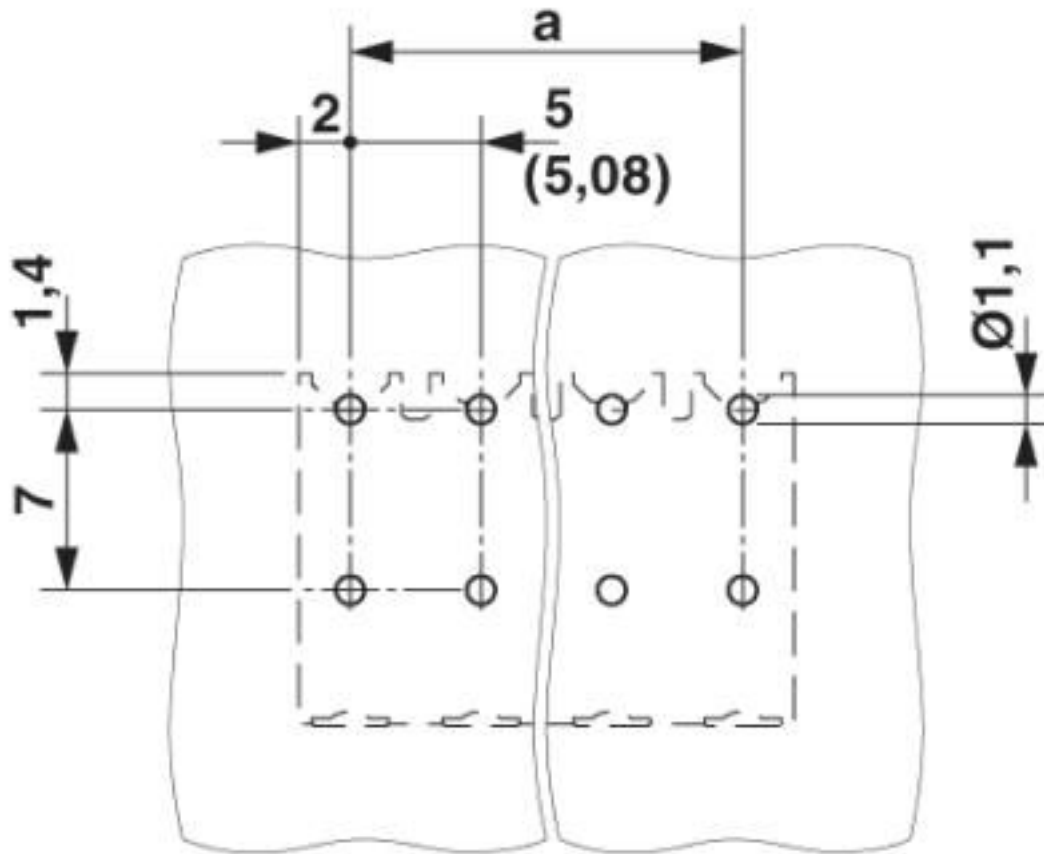
#### Environmental Product Compliance

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

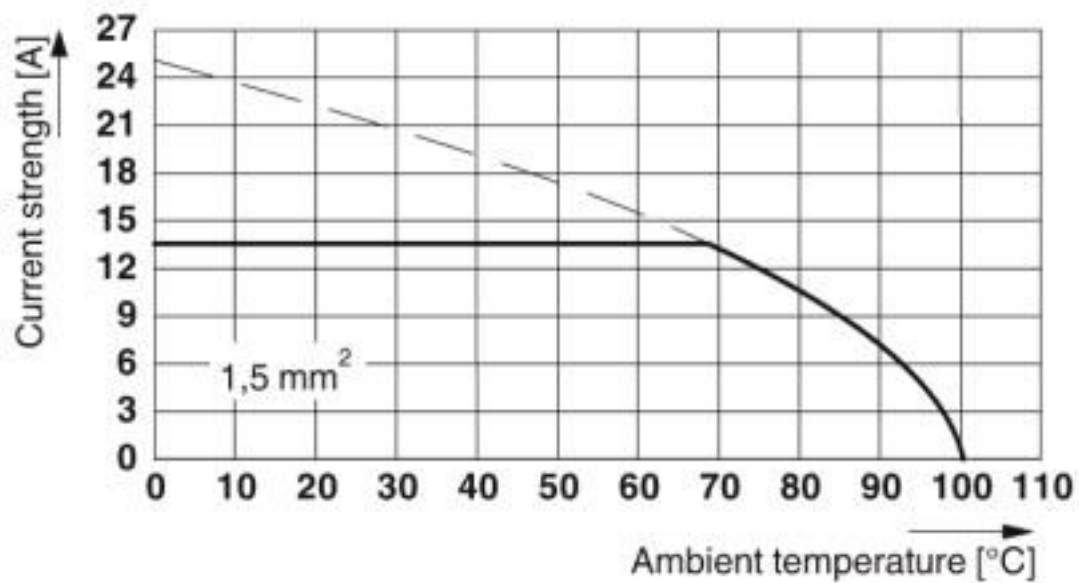
### Drawings

# PCB terminal block - SPT-THR 1,5/ 6-H-5,08 P20 R56 - 1824006

Drilling diagram



Diagram



Type: SPT-THR 1,5/ 5-H-5,0(5,08) P26

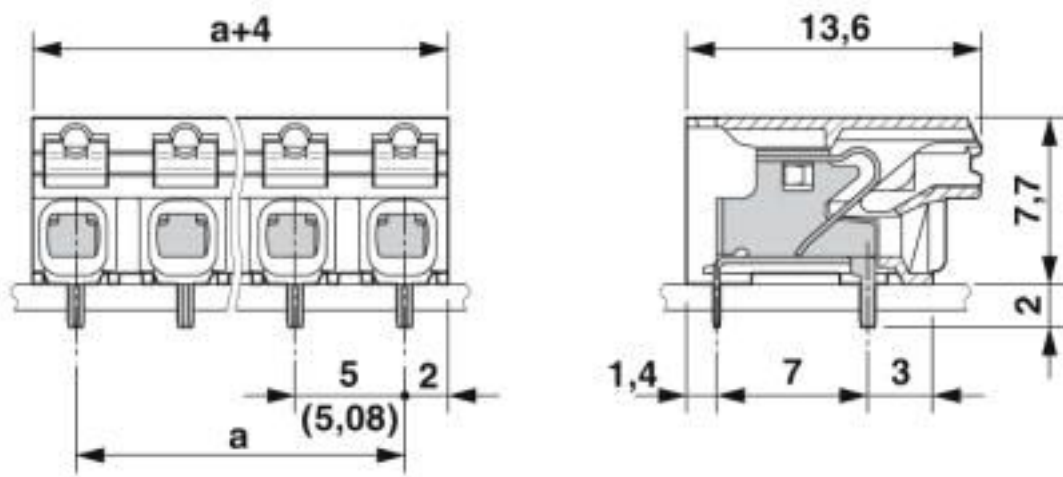
## PCB terminal block - SPT-THR 1,5/ 6-H-5,08 P20 R56 - 1824006

Tested according to DIN EN 60512-5-2:2003-01

Reduction factor = 1

Number of positions: 5

Dimensional drawing



### Classifications

#### eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27440401 |
| eCl@ss 4.0    | 27141100 |
| eCl@ss 4.1    | 27141100 |
| eCl@ss 5.0    | 27141100 |
| eCl@ss 5.1    | 27261100 |
| eCl@ss 6.0    | 27261100 |
| eCl@ss 7.0    | 27440401 |
| eCl@ss 8.0    | 27440401 |
| eCl@ss 9.0    | 27440401 |

#### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC001121 |
| ETIM 4.0 | EC002643 |
| ETIM 5.0 | EC002643 |
| ETIM 6.0 | EC002643 |
| ETIM 7.0 | EC002643 |

#### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30211801 |
| UNSPSC 7.0901 | 39121432 |
| UNSPSC 11     | 39121432 |
| UNSPSC 12.01  | 39121432 |
| UNSPSC 13.2   | 39121432 |
| UNSPSC 18.0   | 39121432 |

# PCB terminal block - SPT-THR 1,5/ 6-H-5,08 P20 R56 - 1824006

## Classifications

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 19.0 | 39121432 |
| UNSPSC 20.0 | 39121432 |
| UNSPSC 21.0 | 39121432 |

## Approvals

### Approvals

#### Approvals

IECEE CB Scheme / VDE Zeichengenehmigung / EAC / cULus Recognized

#### Ex Approvals

### Approval details

|                    |                                                                                     |                                                           |           |
|--------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------|-----------|
| IECEE CB Scheme    |  | <a href="http://www.iecee.org/">http://www.iecee.org/</a> | DE1-60621 |
| Nominal voltage UN | 320 V                                                                               |                                                           |           |
| Nominal current IN | 13.5 A                                                                              |                                                           |           |
| mm²/AWG/kcmil      | 0.2-1.5                                                                             |                                                           |           |

|                        |                                                                                     |                                                                                                                                                                                                           |          |
|------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| 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> | 40046113 |
| Nominal voltage UN     | 320 V                                                                               |                                                                                                                                                                                                           |          |
| Nominal current IN     | 13.5 A                                                                              |                                                                                                                                                                                                           |          |
| mm²/AWG/kcmil          | 0.2-1.5                                                                             |                                                                                                                                                                                                           |          |

|     |                                                                                     |         |
|-----|-------------------------------------------------------------------------------------|---------|
| EAC |  | B.01687 |
|-----|-------------------------------------------------------------------------------------|---------|

|                    |                                                                                     |                                                                                                                                                         |                 |
|--------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| cULus Recognized   |  | <a href="http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm</a> | E60425-20061129 |
| Nominal voltage UN | B<br>300 V                                                                          | D<br>300 V                                                                                                                                              |                 |



## PCB terminal block - SPT-THR 1,5/ 6-H-5,08 P20 R56 - 1824006

### Approvals

|                                | B     | D     |
|--------------------------------|-------|-------|
| Nominal current I <sub>N</sub> | 10 A  | 10 A  |
| mm <sup>2</sup> /AWG/kcmil     | 24-16 | 24-16 |

### Accessories

#### Accessories

##### Cable end sleeve

Ferrule - A 0,5 - 8 - 3202481



Ferrule, length: 8 mm, color: silver

Ferrule - A 0,75- 8 - 3202504



Ferrule, length: 8 mm, color: silver

Ferrule - A 1 - 8 - 3202517



Ferrule, length: 8 mm, color: silver

Ferrule - AI 0,25- 8 YE - 3203037



Ferrule, sleeve length: 8 mm, length: 12.5 mm, color: yellow

## PCB terminal block - SPT-THR 1,5/ 6-H-5,08 P20 R56 - 1824006

### Accessories

Ferrule - AI 0,5 - 8 WH - 3200014



Ferrule, sleeve length: 8 mm, length: 14 mm, color: white

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Ferrule - AI 0,5 - 8 WH -1000 - 3200881



Ferrule, sleeve length: 8 mm, length: 14 mm, color: white

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Ferrule - AI 0,75- 8 GY - 3200519



Ferrule, sleeve length: 8 mm, length: 14 mm, color: gray

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Ferrule - AI 0,75- 8 GY -1000 - 3200894



Ferrule, sleeve length: 8 mm, length: 14 mm, color: gray

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### Crimping tool

Crimping pliers - CRIMPFOX 6 - 1212034



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm² ... 6.0 mm², lateral entry, trapezoidal crimp

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### Printed circuit board terminal

## PCB terminal block - SPT-THR 1,5/ 6-H-5,08 P20 R56 - 1824006

### Accessories

Sample set - SAMPLE SPT-THR 1,5/ 6-H-5,08 - 1838364



PCB terminal block, nominal current: 13.5 A, rated voltage (III/2): 320 V, nominal cross section: 1.5 mm<sup>2</sup>, pitch: 5.08 mm, number of positions: 6, connection method: Push-in spring connection, mounting: THR soldering, conductor/PCB connection direction: 0 °, color: black, Pin layout: Linear double pinning, Solder pin [P]: 2 mm. SAMPLE set with 5 items in belt section. When used as part of soldering process, please use items without SAMPLE marking

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### Screwdriver tools

Screwdriver - SZS 0,4X2,5 VDE - 1205037



Screwdriver, slot-headed, VDE insulated, size: 0.4 x 2.5 x 80 mm, 2-component grip, with non-slip grip

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