

PCB terminal block - SPT-SMD 1,5/10-V-3,81 R72 - 1824271

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PCB terminal block, nominal current: 13.5 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm², pitch: 3.81 mm, number of positions: 10, connection method: Push-in spring connection, mounting: SMD soldering, conductor/PCB connection direction: 90 °, color: black, Pin layout: Linear pad geometry. Sample values available under SAMPLE SPT...


The figure shows the 10-position version

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
- Operation and conductor connection from one direction enable integration into front of device
- Quick and convenient testing using integrated test option
- Two soldering spots per position reduce the mechanical strain on the soldering spots



Key Commercial Data

| | |
|------------------------|---|
| Packing unit | 200 pc |
| Minimum order quantity | 200 pc |
| GTIN |  4 046356 816373 |
| GTIN | 4046356816373 |

Technical data

Item properties

| | |
|---------------------------|---------------------------|
| Brief article description | PCB terminal block |
| Range of articles | SPT 1,5/..-V-SMD |
| Pitch | 3.81 mm |
| Number of positions | 10 |
| Connection method | Push-in spring connection |
| Mounting type | SMD soldering |
| Pin layout | Linear pad geometry |

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Technical data

Item properties

| | |
|-----------------------|----|
| Number of levels | 1 |
| Number of connections | 10 |
| Number of potentials | 10 |

Electrical parameters

| | |
|-----------------------------|--------|
| Nominal current | 13.5 A |
| Nom. voltage | 160 V |
| Rated voltage | 160 V |
| Rated voltage (III/2) | 160 V |
| Rated voltage (II/2) | 320 V |
| Rated surge voltage (III/3) | 2.5 kV |
| Rated surge voltage (III/2) | 2.5 kV |
| Rated surge voltage (II/2) | 2.5 kV |

Connection capacity

| | |
|---|--|
| Connection method | Push-in spring connection |
| Conductor cross section solid | 0.2 mm ² ... 1.5 mm ² |
| Conductor cross section flexible | 0.2 mm ² ... 1.5 mm ² |
| Conductor cross section AWG / kcmil | 24 ... 16 |
| Conductor cross section flexible, with ferrule without plastic sleeve | 0.2 mm ² ... 1.5 mm ² |
| Conductor cross section, flexible, with ferrule, with plastic sleeve | 0.2 mm ² ... 0.75 mm ² |
| 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] | 7.7 mm |
| Width [w] | 38.29 mm |
| Height [h] | 13.6 mm |
| Pitch | 3.81 mm |
| Height (without solder pin) | 13.6 mm |

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Technical data

Dimensions for the product

| | |
|----------------|--------------|
| 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 | 72 mm wide tape |
| Pieces per package | 200 |
| Denomination packing units | Pcs. |
| [W] tape width | 72 mm |
| [A] coil diameter | 330 mm |
| [W2] coil overall dimension | 78.4 mm |
| Outer packaging type | Transparent-Bag |

General product information

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

Processing notes

| | |
|---|--|
| Process | Reflow soldering |
| Specification | Following IPC/JEDEC J-STD-020D.1:2008-03 |
| | Following IEC 60068-2-58:2005-02 |
| Moisture Sensitive Level | MSL 1 |
| Classification temperature T _c | 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

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

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Technical data

Pull-out test

| | |
|--|---|
| | 1.5 mm ² / solid / > 40 N |
| | 1.5 mm ² / 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 ² |
| Rated voltage (III/2) | 160 V |
| Rated surge voltage (III/2) | 2.5 kV |

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) | 1.5 mm |
| Minimum clearance - inhomogeneous field (III/2) | 1.5 mm |
| Minimum clearance - inhomogeneous field (II/2) | 1.5 mm |
| Minimum creepage distance value (III/3) | 2.5 mm |
| Minimum creepage distance value (III/2) | 1.6 mm |
| Minimum creepage distance value (II/2) | 3.2 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-SMD 1,5/...-V-3,5(3,81) R.. Tested in accordance with DIN EN 60512-5-2:2003-01 Reduction factor = 1 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 |
| 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

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Technical data

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 | 1 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 |

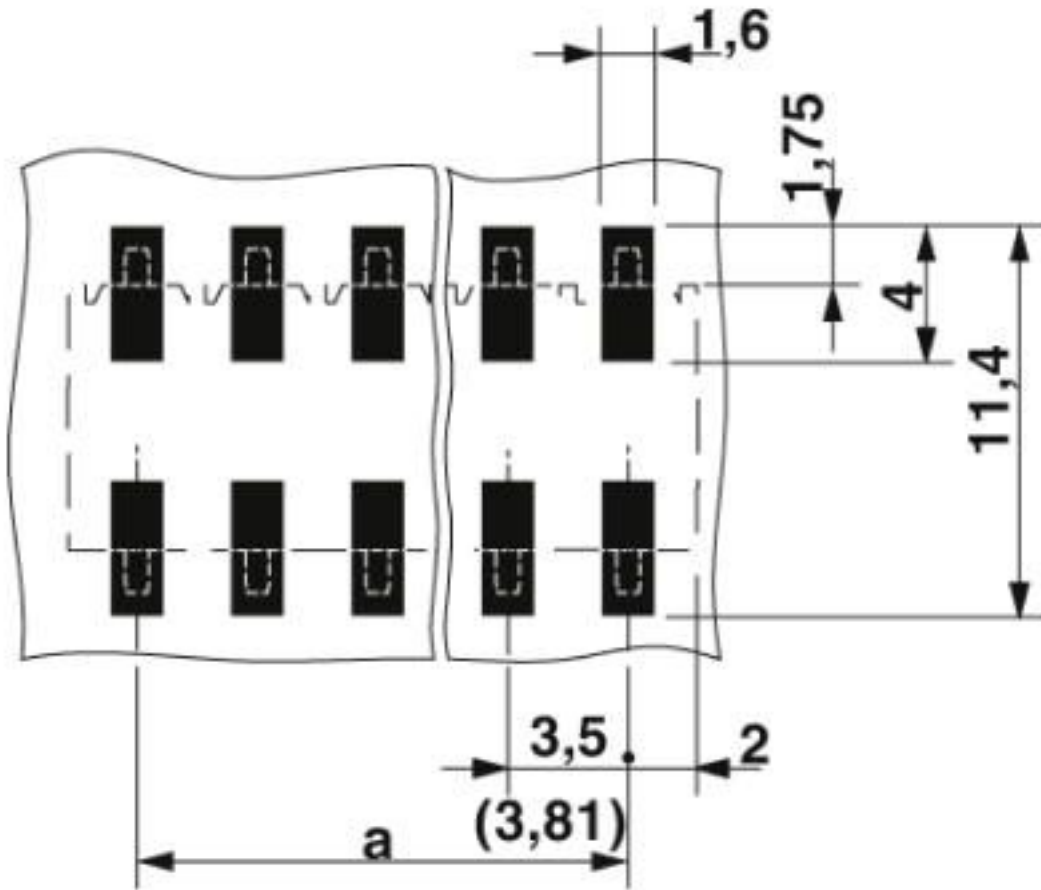
Environmental Product Compliance

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

Drawings

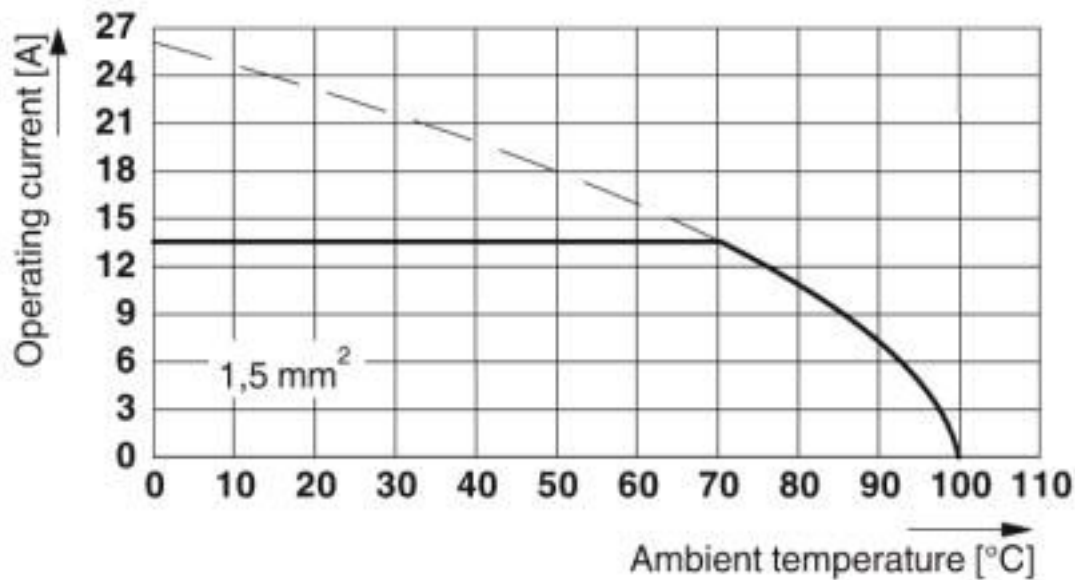
PCB terminal block - SPT-SMD 1,5/10-V-3,81 R72 - 1824271

Drilling diagram



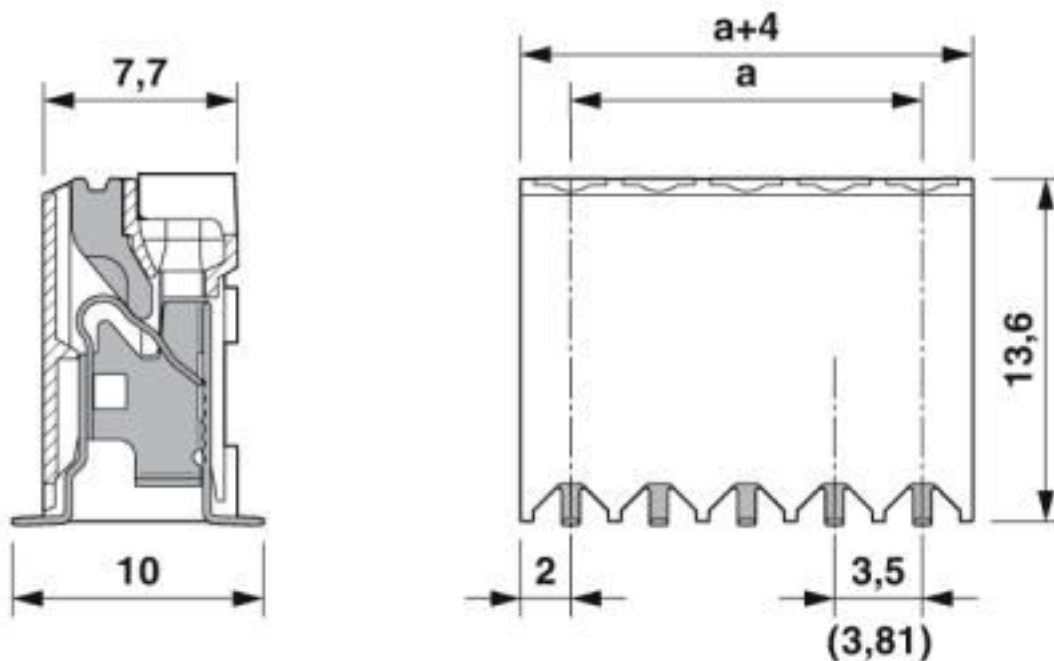
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Diagram



Type: SPT-SMD 1,5/...-V-3,5(3,81) R..
Tested in accordance with DIN EN 60512-5-2:2003-01
Reduction factor = 1
Number of positions: 5

Dimensional drawing



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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 |
| 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

PCB terminal block - SPT-SMD 1,5/10-V-3,81 R72 - 1824271

Approvals

| | | | |
|----------------------------|--|---|-----------|
| IECEE CB Scheme | | http://www.iecee.org/ | DE1-60621 |
| Nominal voltage UN | | 160 V | |
| Nominal current IN | | 13.5 A | |
| mm ² /AWG/kcmil | | 0.2-1.5 | |

| | | | |
|----------------------------|--|---|----------|
| VDE Zeichengenehmigung | | http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx | 40046113 |
| Nominal voltage UN | | 160 V | |
| Nominal current IN | | 13.5 A | |
| mm ² /AWG/kcmil | | 0.2-1.5 | |

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

| | | | |
|----------------------------|-------|---|-----------------|
| cULus Recognized | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | E60425-20061129 |
| | B | D | |
| Nominal voltage UN | 300 V | 300 V | |
| Nominal current IN | 10 A | 10 A | |
| mm ² /AWG/kcmil | 24-16 | 24-16 | |

Accessories

Accessories

Cable end sleeve

Ferrule - A 0,5 - 8 - 3202481



Ferrule, length: 8 mm, color: silver

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Accessories

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

Ferrule - AI 0,5 - 8 WH - 3200014



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

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



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

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Accessories

Ferrule - AI 0,75- 8 GY - 3200519



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

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



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

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

Printed circuit board terminal

Sample set - SAMPLE SPT-SMD 1,5/10-V-3,81 - 1838513



PCB terminal block, nominal current: 13.5 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm², pitch: 3.81 mm, number of positions: 10, connection method: Push-in spring connection, mounting: SMD soldering, conductor/PCB connection direction: 90 °, color: black, Pin layout: Linear pad geometry. SAMPLE set with 5 items in belt section. When used as part of soldering process, please use items without SAMPLE marking

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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