

PTSM 0,5/ 5-2,5-V THR R44 - PCB terminal block



1770982

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PCB terminal block, nominal current: 6 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm², number of potentials: 5, number of rows: 1, number of positions per row: 5, product range: PTSM 0,5/..-V-THR, pitch: 2.5 mm, connection method: Push-in spring connection, mounting: THR soldering / wave soldering, conductor/PCB connection direction: 90 °, color: black, Pin layout: Linear pinning, Solder pin [P]: 2.1 mm, number of solder pins per potential: 2, type of packaging: 44 mm wide tape

Your advantages

- Time saving push-in connection, tools not required
- Defined contact force ensures that contact remains stable over the long term
- High current carrying capacity of 6 A in very compact dimensions
- Designed for integration into the SMT soldering process
- Vertical connection enables multi-row arrangement on the PCB

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 1770982 |
| Packing unit | 310 pc |
| Minimum order quantity | 310 pc |
| Sales key | AA11 |
| Product key | AAKCAC |
| GTIN | 4046356459563 |
| Weight per piece (including packing) | 2.97 g |
| Weight per piece (excluding packing) | 2.85 g |
| Customs tariff number | 85369010 |
| Country of origin | IN |

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Technical data

Product properties

| | |
|---------------------------|--|
| Product type | PCB terminal block |
| Product family | PTSM 0,5/...-V-THR |
| Product line | COMBICON Terminals XS |
| Type | Component suitable for through hole reflow |
| Number of positions | 5 |
| Pitch | 2.5 mm |
| Number of connections | 5 |
| Number of rows | 1 |
| Number of potentials | 5 |
| Pin layout | Linear pinning |
| Solder pins per potential | 2 |

Electrical properties

Properties

| | |
|-----------------------------|--------|
| Nominal current I_N | 6 A |
| Nominal voltage U_N | 160 V |
| Rated voltage (III/3) | 32 V |
| Rated surge voltage (III/3) | 2.5 kV |
| Rated voltage (III/2) | 160 V |
| Rated surge voltage (III/2) | 2.5 kV |
| Rated voltage (II/2) | 160 V |
| Rated surge voltage (II/2) | 2.5 kV |

Connection data

Connection technology

| | |
|-----------------------|--|
| Type | Component suitable for through hole reflow |
| Nominal cross section | 0.5 mm ² |

Conductor connection

| | |
|---|--|
| Connection method | Push-in spring connection |
| Conductor cross-section rigid | 0.14 mm ² ... 0.5 mm ² |
| Conductor cross-section flexible | 0.2 mm ² ... 0.5 mm ² (up to 0.75 mm ² supported, with a stripping length of 7.5 mm and a rated insulation voltage of 32 V at III/2) |
| Conductor cross-section AWG | 26 ... 20 |
| Conductor cross-section, flexible, with ferrule, without plastic sleeve | 0.25 mm ² ... 0.5 mm ² |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve | 0.25 mm ² ... 0.34 mm ² (possible from 0.14 mm ² , when using ferrule AI 0.14- 6 GY in combination with crimping pliers CRIMPFOX 10T-F) |
| Cylindrical gauge a x b / diameter | - / 1.2 mm |
| Stripping length | 6 mm |

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Mounting

| | |
|---------------|--------------------------------|
| Mounting type | THR soldering / wave soldering |
| Pin layout | Linear pinning |

Processing notes

| | |
|---|-----------------------|
| Process | Reflow/wave soldering |
| Moisture Sensitive Level | MSL 1 |
| Classification temperature T _c | 260 °C |
| Solder cycles in the reflow | 3 |

Material specifications

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 µm - 8 µm Sn) |
| Metal surface soldering area (top layer) | Tin (4 µm - 8 µm Sn) |

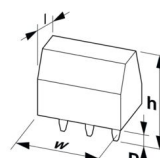
Material data - housing

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

Notes

| | |
|---------------------|---|
| Note on application | Pick and place pads may protrude beyond the components. The PCB layout must ensure that collisions are avoided when components are assembled. |
|---------------------|---|

Dimensions

| | |
|-----------------------|--|
| Dimensional drawing |  |
| Pitch | 2.5 mm |
| Width [w] | 13 mm |
| Height [h] | 12.1 mm |
| Length [l] | 5 mm |
| Installed height | 10 mm |
| Solder pin length [P] | 2.1 mm |
| Pin dimensions | 0.3 x 0.8 mm |

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PCB design

| | |
|---------------|--------|
| Pin spacing | 2.5 mm |
| Hole diameter | 1.2 mm |

Mechanical tests

Connection test

| | |
|---------------|-----------------------|
| Specification | IEC 60998-2-2:2002-12 |
| Result | Test passed |

Test for conductor damage and slacking

| | |
|---------------|-----------------------|
| Specification | IEC 60998-2-2:2002-12 |
| Result | Test passed |

Pull-out test

| | |
|---|--|
| Specification | IEC 60998-2-2:2002-12 |
| Conductor cross-section/conductor type/tractive force setpoint/actual value | 0.14 mm ² / solid / > 10 N |
| | 0.2 mm ² / flexible / > 10 N |
| | 0.5 mm ² / solid / > 20 N |
| | 0.75 mm ² / flexible / > 30 N |

Flexion test

| | |
|---------------|-----------------------|
| Specification | IEC 60998-2-2:2002-12 |
| Result | Test passed |

Electrical tests

Temperature-rise test

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

Insulation resistance

| | |
|--|---------------------|
| Specification | IEC 60998-1:2002-12 |
| Insulation resistance, neighboring positions | > 5 MΩ |

Air clearances and creepage distances |

| | |
|--|---------------------|
| Specification | IEC 60664-1:2007-04 |
| Insulating material group | IIIa |
| Comparative tracking index (IEC 60112) | CTI ≥175 to <400 |
| Rated insulation voltage (III/3) | 32 V |
| Rated surge voltage (III/3) | 2.5 kV |
| minimum clearance value - non-homogenous field (III/3) | 1.5 mm |
| minimum creepage distance (III/3) | 2 mm |
| Rated insulation voltage (III/2) | 160 V |
| Rated surge voltage (III/2) | 2.5 kV |
| minimum clearance value - non-homogenous field (III/2) | 1.5 mm |
| minimum creepage distance (III/2) | 2 mm |

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| | |
|---|--------|
| Rated insulation voltage (II/2) | 160 V |
| Rated surge voltage (II/2) | 2.5 kV |
| minimum clearance value - non-homogenous field (II/2) | 1.5 mm |
| minimum creepage distance (II/2) | 2 mm |

Environmental and real-life conditions

Vibration test

| | |
|------------------------|-----------------------------|
| Specification | IEC 60068-2-6:2007-12 |
| Frequency | 10 - 150 - 10 Hz |
| Sweep speed | 1 octave/min |
| Amplitude | 0.35 mm (10 Hz ... 60.1 Hz) |
| Acceleration | 5g (60.1 Hz ... 150 Hz) |
| Test duration per axis | 2.5 h |
| Test directions | X-, Y- and Z-axis |

Glow-wire test

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

Ambient conditions

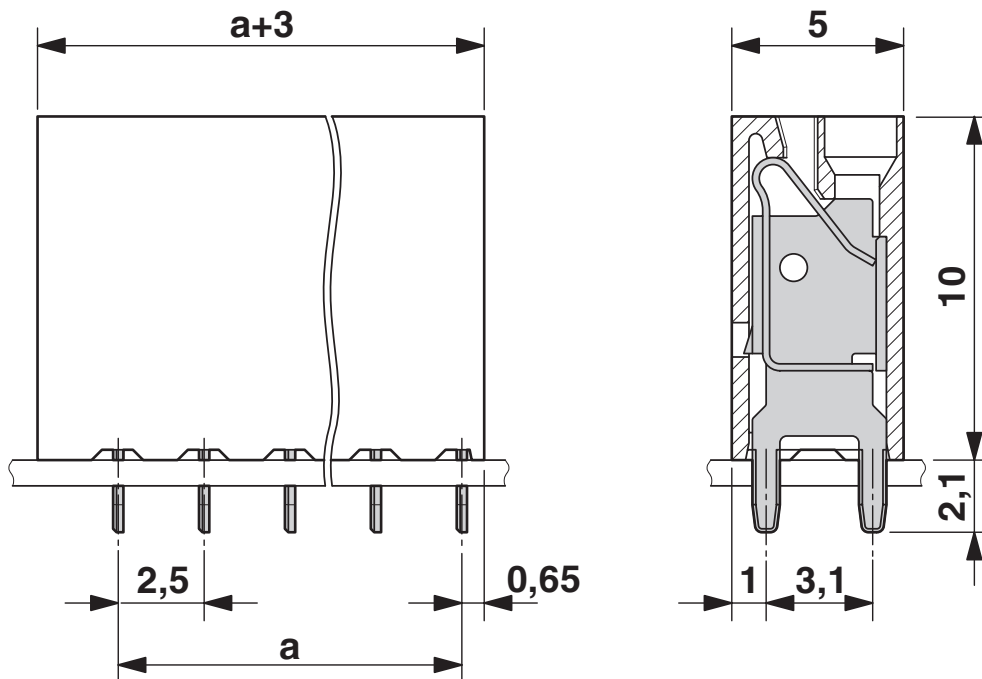
| | |
|---|---|
| Ambient temperature (storage/transport) | -40 °C ... 70 °C |
| Relative humidity (storage/transport) | 30 % ... 70 % |
| Ambient temperature (assembly) | -5 °C ... 100 °C |
| Ambient temperature (operation) | -40 °C ... 100 °C (Depending on the current carrying capacity/derating curve) |

Packaging specifications

| | |
|-----------------------------|-----------------|
| Dimensional drawing | |
| Type of packaging | 44 mm wide tape |
| [W] tape width | 44 mm |
| [W2] coil overall dimension | ≤ 50.4 mm |
| [A] coil diameter | ≤ 330 mm |
| Outer packaging type | Transparent-Bag |

Drawings

Dimensional drawing

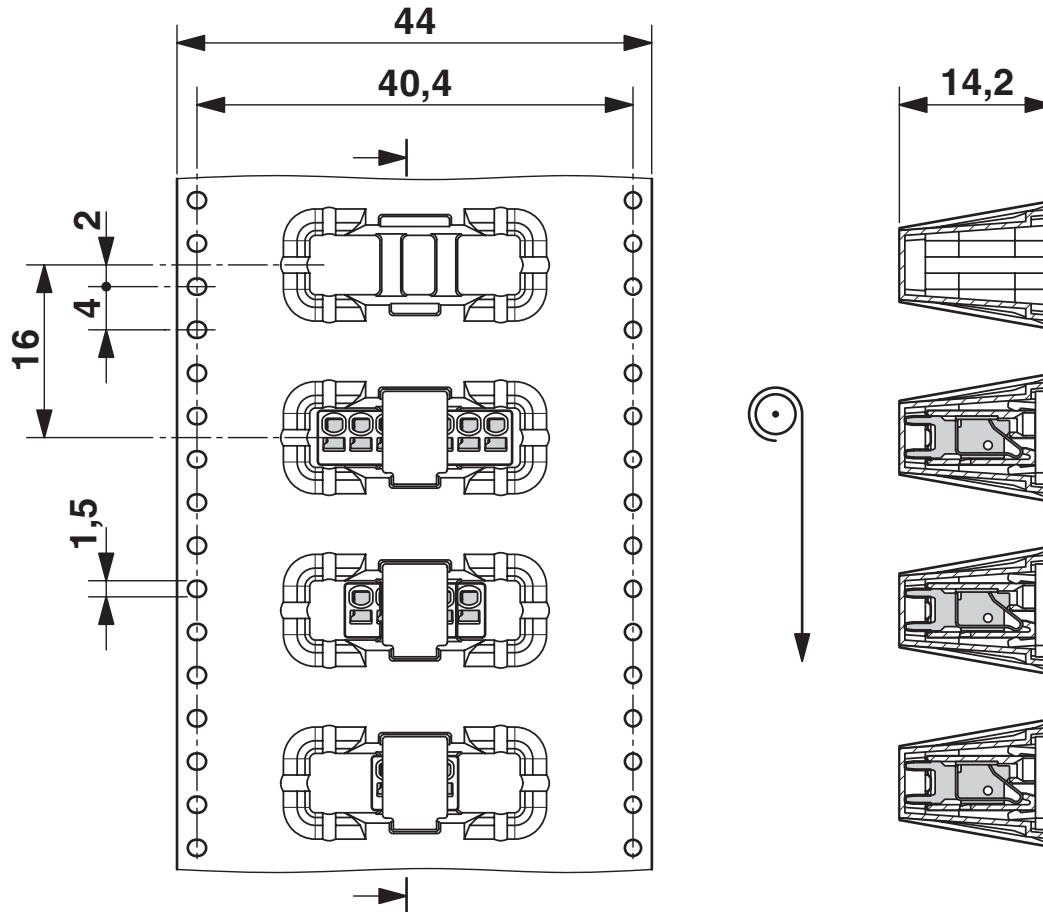


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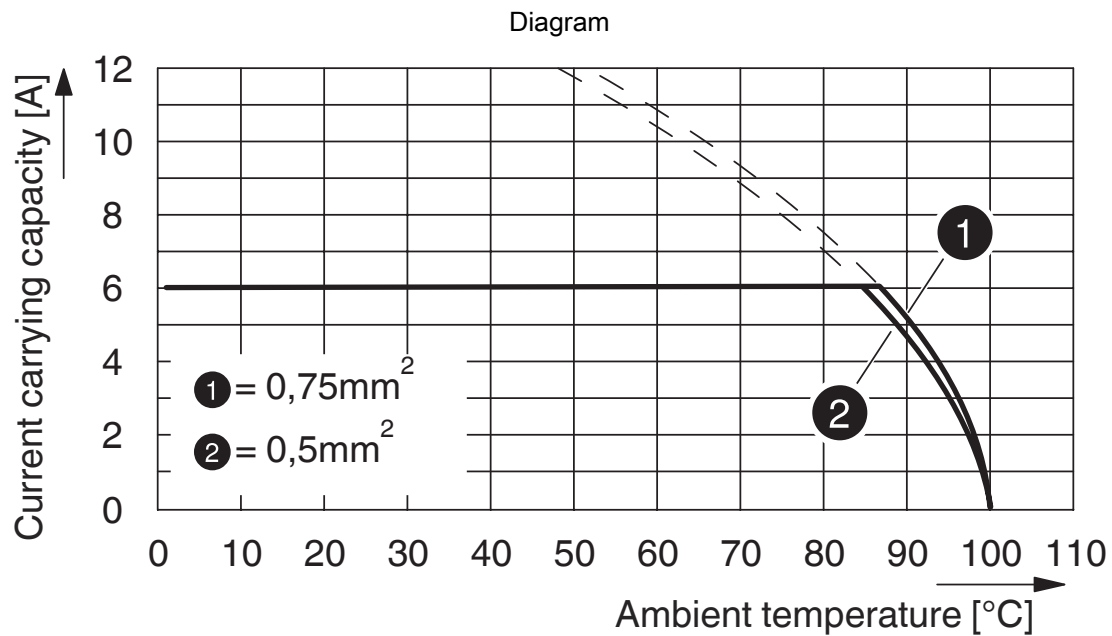
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Dimensional drawing



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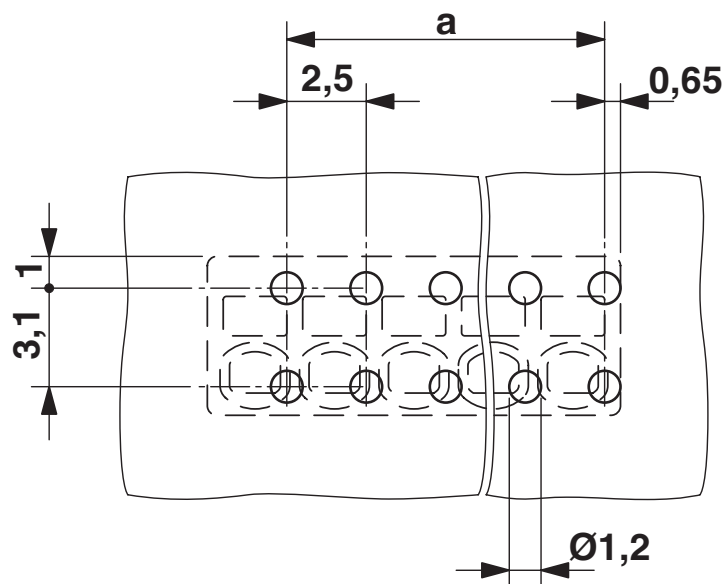
Type: PTSM 0,5/...-2,5-V THR R44

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

Reduction factor = 1

Number of positions: 5

Drilling plan/solder pad geometry



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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1770982>

|  UL Recognized Approval ID: E118976-20130619 | | | | |
|---|-----------------------|-----------------------|-------------------|----------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| B | | | | |
| | 150 V | 5 A | 26 - 18 | - |

|  cULus Recognized Approval ID: E60425-20030527 | | | | |
|---|-----------------------|-----------------------|-------------------|----------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| B | | | | |
| | 150 V | 5 A | 26 - 20 | - |

|  VDE Zeichengenehmigung Approval ID: 40048725 | | | | |
|--|-----------------------|-----------------------|-------------------|----------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | | | | |
| | 160 V | 6 A | - | 0.14 - 0.5 |

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27460101 |
| ECLASS-15.0 | 27460101 |

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | EC002643 |
|-----------|----------|

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 39121400 |
|-------------|----------|

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Environmental product compliance

EU RoHS

| | |
|---|--------------------|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |
|---|--------------------|

China RoHS

| | |
|--|--|
| Environment friendly use period (EFUP) | EFUP-E |
| | No hazardous substances above the limits |

EU REACH SVHC

| | |
|-------------------------------------|----------------------------|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

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Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com