

Printed-circuit board connector - MC 1,5/ 9-GF-3,81 P14 THRR72 - 1782200

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PCB headers, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm², number of positions: 9, pitch: 3.81 mm, color: black, contact surface: Tin, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 1.4 mm




The figure shows a 10-position version of the product

Your advantages

- Designed for integration into the SMT soldering process
- Screwable flange for superior mechanical stability
- Maximum flexibility when it comes to device design – one header for connectors with different connection technologies



Key Commercial Data

| | |
|------------------------|---|
| Packing unit | 380 pc |
| Minimum order quantity | 380 pc |
| GTIN |  4 046356 550451 |
| GTIN | 4046356550451 |

Technical data

Item properties

| | |
|---------------------------|---------------------|
| Brief article description | Feed-through header |
| Plug-in system | MINI COMBICON |
| Type of contact | Male connector |
| Range of articles | MC 1,5/...GF-THR |
| Pitch | 3.81 mm |
| Number of positions | 9 |
| Mounting type | THR soldering |
| Pin layout | Linear pinning |
| Locking | Threaded flange |
| Number of levels | 1 |

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Technical data

Electrical parameters

| | |
|-----------------------------|--------|
| Nominal current | 8 A |
| Nom. voltage | 160 V |
| Rated voltage | 160 V |
| Rated voltage (III/2) | 160 V |
| Rated voltage (II/2) | 250 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 |

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 µm Ni), |
| Metal surface soldering area (top layer) | Tin (3 - 5 µm Sn) |
| Metal surface soldering area (middle layer) | Nickel (1 - 3 µm Ni) |

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] | 9.2 mm |
| Width [w] | 44.68 mm |
| Height [h] | 8.3 mm |
| Pitch | 3.81 mm |
| Height (without solder pin) | 6.9 mm |
| Solder pin [P] | 1.4 mm |
| Pin dimensions | 0.8 x 0.8 mm |

Dimensions for PCB design

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

Packaging information

| | |
|----------------------------|-----------------|
| Type of packaging | 56 mm wide tape |
| Pieces per package | 380 |
| Denomination packing units | Pcs. |

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Packaging information

| | |
|-----------------------------|-----------------|
| [W] tape width | 56 mm |
| [A] coil diameter | 330 mm |
| [W2] coil overall dimension | 62.4 mm |
| Outer packaging type | Transparent-Bag |

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 _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 (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) | 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 |

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 ₁ | 1.4 mΩ |
| Insertion/withdrawal cycles | 25 |
| Contact resistance R ₂ | 1.5 mΩ |
| Impulse withstand voltage at sea level | 2.95 kV |

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Durability tests (B)

| | |
|--|---------|
| Power-frequency withstand voltage | 1.39 kV |
| Insulation resistance, neighboring positions | > 5 TΩ |

Thermal tests (C)

| | |
|---|-----------------------|
| Specification | IEC 60512-5-1:2002-02 |
| Number of positions | 20 |
| Conductor cross section | 1.5 mm ² |
| Test current | 8 A DC |
| Upper limiting temperature requirements <100 °C | Test passed |

Climatic tests (D)

| | |
|--|---|
| Specification | ISO 6988:1985-02 |
| Cold stress | -40 °C/2 h |
| Thermal stress | 100 °C/168 h |
| Corrosive stress | 0.2 dm ³ SO ₂ on 300 dm ³ /40 °C/1 cycle |
| Impulse withstand voltage at sea level | 2.95 kV |
| Power-frequency withstand voltage | 1.39 kV |

Environmental and durability tests (E)

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

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 |

Standards and Regulations

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

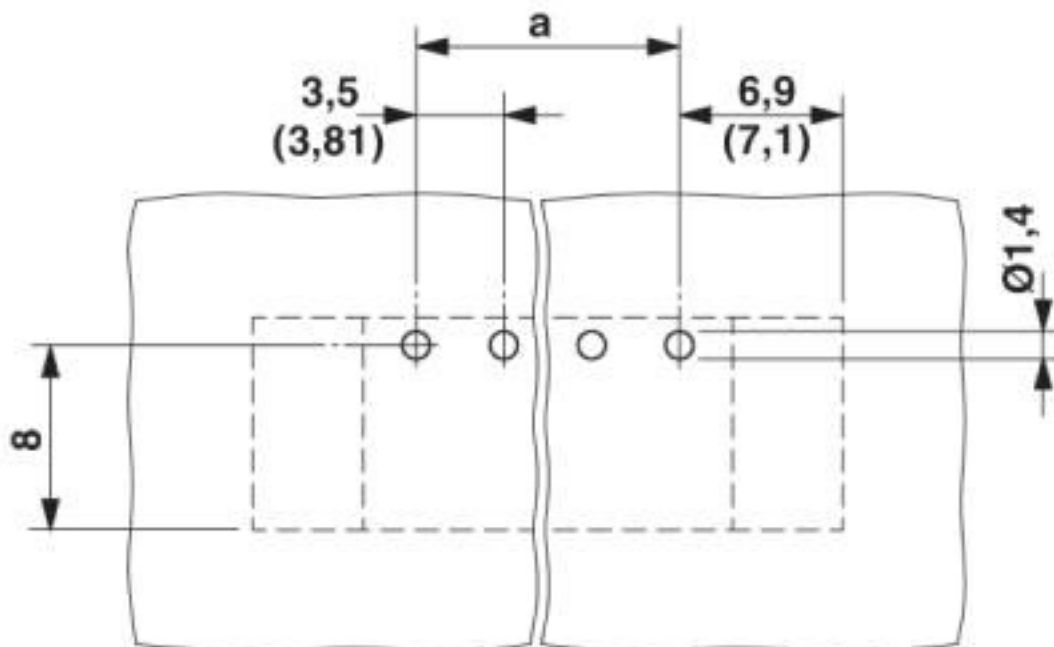
Environmental Product Compliance

| | |
|------------|---|
| REACH SVHC | Lead 7439-92-1 |
| China RoHS | Environmentally Friendly Use Period = 50 years |
| | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

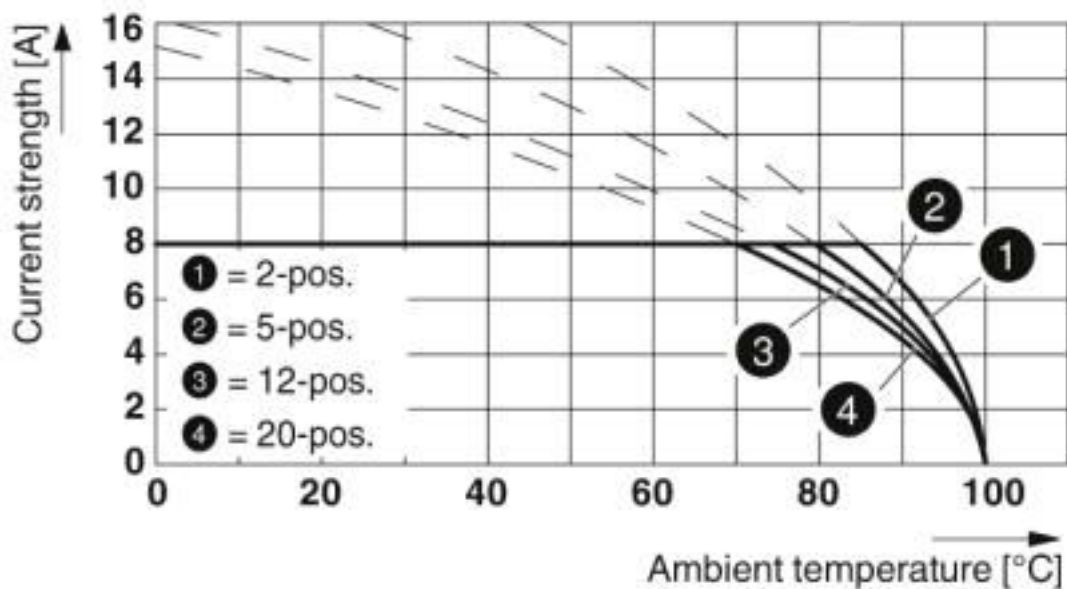
Drawings

Printed-circuit board connector - MC 1,5/ 9-GF-3,81 P14 THRR72 - 1782200

Drilling diagram



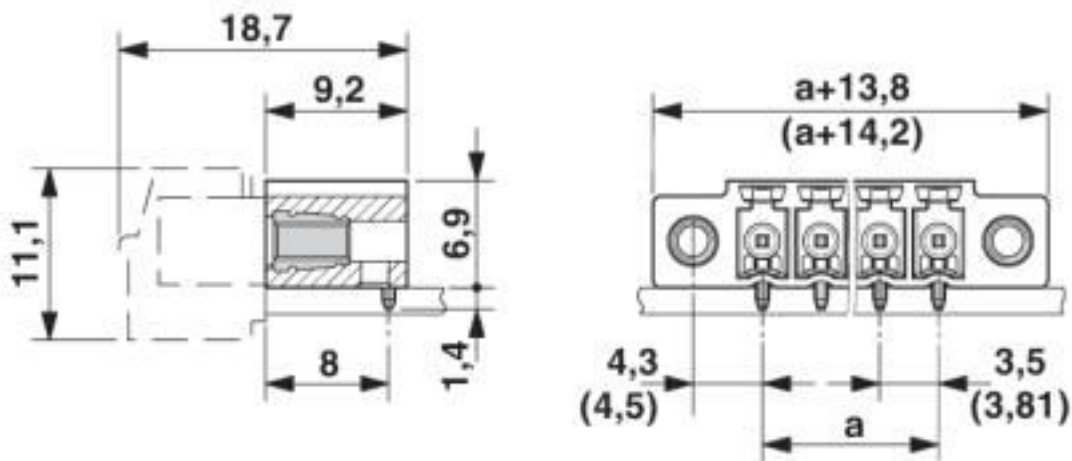
Diagram



Type: FK-MCP 1,5/...-ST(F)-3,81 with MC 1,5/...-G(F)-3,81 P.. THR(R...)

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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 |
| 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 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 |

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Classifications

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 39121409 |
|-------------|----------|

Approvals


Approvals


Approvals


IECEE CB Scheme / VDE Gutachten mit Fertigungsüberwachung / EAC / cULus Recognized


Ex Approvals

Approval details

| | | | |
|--------------------|---|---|----------------|
| IECEE CB Scheme |  | http://www.iecee.org/ | DE1-60987-B1B2 |
| Nominal voltage UN | 160 V | | |
| Nominal current IN | 8 A | | |

| | | | |
|---|---|---|----------|
| VDE Gutachten mit Fertigungsüberwachung |  | http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx | 40011723 |
| Nominal voltage UN | 160 V | | |
| Nominal current IN | 8 A | | |

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

| | | | |
|--------------------|---|---|-----------------|
| cULus Recognized |  | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | E60425-20110128 |
| | B | D | |
| Nominal voltage UN | 300 V | 300 V | |
| Nominal current IN | 8 A | 8 A | |

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

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