

FP 0,8/ 12-MH-SH - SMD male connector, shielded



1043791

<https://www.phoenixcontact.com/us/products/1043791>

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shielded SMD male connector, nominal current: 1.7 A, test voltage: 500 V AC, number of positions: 12, pitch: 0.8 mm, color: black, contact surface: Au, contact connection type: Pin, mounting: SMD soldering

Your advantages

- Gold-plated contacts ensure transfer quality remains stable over the long term
- Reliable mechanical and electrical connections, thanks to the double-sided ScaleX contact system
- Robustness: ScaleX technology for high tolerance compensation and protection of contacts
- Flexible device design: various numbers of positions, designs, and stack heights with high wipe lengths



Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 1043791 |
| Packing unit | 400 pc |
| Minimum order quantity | 400 pc |
| Sales key | AA23 |
| Product key | AAWJDA |
| GTIN | 4055626616520 |
| Weight per piece (including packing) | 2.232 g |
| Weight per piece (excluding packing) | 0.57 g |
| Customs tariff number | 85366930 |
| Country of origin | CN |

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Technical data

Product properties

| | |
|---------------------------|-----------------------------|
| Product type | shielded SMD male connector |
| Product family | FP 0,8/...-MH-SH |
| Number of positions | 12 |
| Pitch | 0.8 mm |
| Number of rows | 2 |
| Pin layout | Linear pad geometry |
| Electrical characteristic | shielded |

Electrical properties

Properties

| | |
|---------------------------|---|
| Nominal current I_N | 1.7 A IEC 60512-5-2:2002-02 (at 20°C 80-pos.) |
| Contact resistance | 25 mΩ |
| Test voltage | 500 V AC IEC 60512-4-1:2003-05 |
| Electrical characteristic | shielded |

Data transmission

| | |
|------------------------|---------|
| Data transmission rate | 16 Gbps |
|------------------------|---------|

Mounting

| | |
|---------------|---------------------|
| Mounting type | SMD soldering |
| Pin layout | Linear pad geometry |

Processing notes

| | |
|----------------------------------|------------------|
| Process | Reflow 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 | Selective coating |
| Metal surface contact area (top layer) | Gold (min. 0.5 μm Au) |
| Metal surface contact area (middle layer) | Nickel (1.27 μm - 4 μm Ni) |
| Metal surface soldering area (top layer) | Tin (2 μm - 6 μm Sn) |
| Metal surface soldering area (middle layer) | Nickel (1.27 μm - 4 μm Ni) |

Material data - housing

| | |
|-----------------|--------------|
| Color (Housing) | black (9005) |
|-----------------|--------------|

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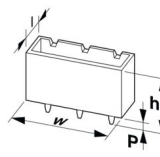
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| | |
|--|------|
| Insulating material | LCP |
| Insulating material group | IIIb |
| CTI according to IEC 60112 | 150 |
| Flammability rating according to UL 94 | V0 |

Notes

| | |
|---------------------------------|--|
| Notes on operation | The permissible voltage during operation depends on the application, taking into consideration the air clearances and creepage distances within the scope of insulation requirements in accordance with IEC 60664-1. |
| Details for soldering processes | The items are suitable for assembly on both sides and for overhead soldering. |

Dimensions

| | |
|---------------------|---|
| Dimensional drawing |  |
| Pitch | 0.8 mm |
| Width [w] | 9.2 mm |
| Height [h] | 7.05 mm |
| Length [l] | 8.95 mm |
| Installed height | 6.45 mm |

Application

| | |
|--|---|
| Contact cover | 0.8 mm |
| Center offset | ± 0.7 mm in longitudinal and transverse direction |
| Wipe length | 1.5 mm |
| Angular tolerance | ± 5 ° in longitudinal and transverse direction (when plugging in) ± 5 ° in longitudinal and transverse direction (when plugged in) |
| Axial offset in X direction (longitudinal) | ± 0.3 mm (Tolerance compensation when plugged in) |
| Axial offset in Y direction (transversal) | ± 0.3 mm (Tolerance compensation when plugged in) |

PCB design

| | |
|--------------|------------|
| Pad geometry | 0.5 x 1 mm |
|--------------|------------|

Electrical tests

Thermal test | Test group C

| | |
|----------------------------|-----------------------|
| Specification | IEC 60512-5-2:2002-02 |
| Tested number of positions | 80 |

Insulation resistance

| | |
|--|-----------------------|
| Specification | IEC 60512-3-1:2002-02 |
| Insulation resistance, neighboring positions | ≥ 5 GΩ |

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Air clearances and creepage distances |

| | |
|---|---------|
| Insulating material group | IIIb |
| Minimum value for clearance and creepage distance | 0.25 mm |

Environmental and real-life conditions

Durability test

| | |
|-----------------------------|-----------------------------------|
| Specification | IEC 60512-9-1:2010-03 (following) |
| Contact resistance R_1 | 25 m Ω |
| Contact resistance R_2 | 25 m Ω |
| Insertion/withdrawal cycles | 500 |

Vibration test

| | |
|------------------------|--|
| Specification | IEC 60068-2-6:2007-12 |
| Frequency | 10 - 2000 - 10 Hz |
| Sweep speed | 1 octave/min |
| Amplitude | 1.5 mm (10 Hz ... 58 Hz) |
| Acceleration | 200 m/s ² (58 Hz ... 2000 Hz) |
| Test duration per axis | 2.5 h |
| Test directions | X-, Y- and Z-axis |

Shocks

| | |
|-----------------|-----------------------------------|
| Specification | IEC 60068-2-27:2008-02 |
| Pulse shape | Semi-sinusoidal |
| Acceleration | 490 m/s ² |
| Shock duration | 11 ms |
| Test directions | X-, Y- and Z-axis (pos. and neg.) |

Railway application: Oscillation/broadband noise

| | |
|------------------------|--|
| Specification | DIN EN 50155 (VDE 0115-200):2022-06 IEC 61373:2010-05 |
| Spectrum | Long life test category 2, bogie-mounted |
| Frequency | $f_1 = 5$ Hz to $f_2 = 250$ Hz |
| ASD level | 6.12 (m/s ²) ² /Hz |
| Acceleration | 30.6 m/s ² |
| Test duration per axis | 5 h |
| Test directions | X-, Y- and Z-axis |
| Contact interruption | < 1 μ s |
| Result | Test passed |

Railway application: Shocks

| | |
|----------------|--|
| Specification | DIN EN 50155 (VDE 0115-200):2022-06 IEC 61373:2010-05 |
| Pulse shape | Semi-sinusoidal |
| Acceleration | 490 m/s ² |
| Shock duration | 11 ms |

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| | |
|--------------------------------|-----------------------------------|
| Number of shocks per direction | 3 |
| Test directions | X-, Y- and Z-axis (pos. and neg.) |
| Contact interruption | < 1 μ s |
| Result | Test passed |

Ambient conditions

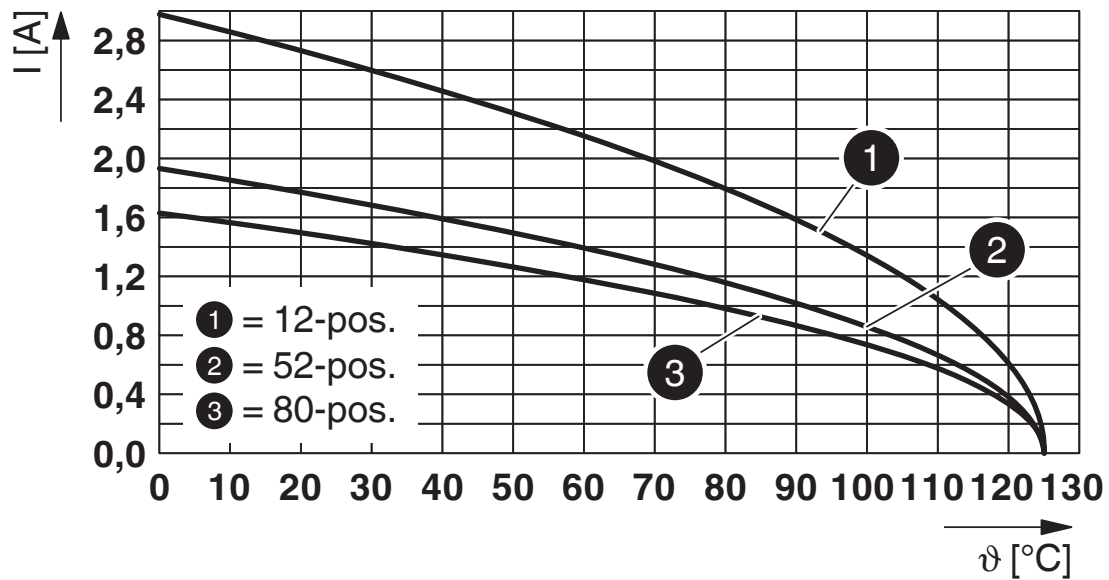
| | |
|---|-------------------|
| Ambient temperature (storage/transport) | -40 °C ... 70 °C |
| Relative humidity (storage/transport) | 30 % ... 70 % |
| Ambient temperature (assembly) | -5 °C ... 100 °C |
| Ambient temperature (operation) | -55 °C ... 125 °C |

Packaging specifications

| | |
|-----------------------------|-----------------|
| Dimensional drawing | |
| Type of packaging | 24 mm wide tape |
| [W] tape width | 24 mm |
| [W2] coil overall dimension | ≤ 30.4 mm |
| [A] coil diameter | ≤ 330 mm |
| Outer packaging type | Transparent-Bag |

Drawings

Diagram



Type: FP 0,8/...-MH-SH with FP 0,8/...-FH-SH

Diagram



Type: FP 0,8/...-MH-SH with FP 0,8/...-FH-SH

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Approvals

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cULus Recognized

Approval ID: E118976-20190703

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27460201 |
| ECLASS-15.0 | 27460201 |

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | EC002637 |
|-----------|----------|

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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