# FP 1,27/ 68-FV 9,05 - SMD female connectors

1714888

https://www.phoenixcontact.com/us/products/1714888

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SMD female connector, nominal current: 1.4 A, Test voltage: 500 V AC, number of positions: 68, pitch: 1.27 mm, color: black, contact surface: Gold, contact connection type: Socket, mounting: SMD soldering

## Your advantages

- Gold-plated contacts ensure transfer quality remains stable over the long term
- Compact, high-position board-to-board or wire-to-board connectors for space-saving device designs
- Stacked, coplanar or orthogonal PCB connections enable maximum flexibility in the device
- Male and female connectors of different height can be combined – for individual PCB spacing of 8 mm ... 13.8 mm

## Commercial data

| | |
|---|---|
| Item number | 1714888 |
| Packing unit | 280 pc |
| Minimum order quantity | 280 pc |
| Sales key | AA24 |
| Product key | AAXAAC |
| GTIN | 4055626400495 |
| Weight per piece (including packing) | 4.76 g |
| Weight per piece (excluding packing) | 2.22 g |
| Customs tariff number | 85366930 |
| Country of origin | CN |

## Technical data

### Product properties

| | |
|---|---|
| Product type | SMD female connector |
| Product family | FR 1,27/...-FV 9,05 |
| Number of positions | 68 |
| Pitch | 1.27 mm |
| Number of rows | 2 |
| Number of potentials | 68 |
| Pin layout | Linear pad geometry |

### Electrical properties

| | |
|---|---|
| Nominal current $I_N$ | 1.4 A IEC 60512-5-2:2002-02 (at 20°C 50-pos.) |
| Degree of pollution | 3 |
| Contact resistance | 25 mΩ |
| Test voltage | 500 V AC IEC 60512-4-1:2003 |
| Rated voltage (III/3) | 500 V |
| Rated voltage (II/2) | 10 V |
| Rated surge voltage (II/2) | 0.8 kV |

### 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 |

### 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 (Au) |
| Metal surface contact area (middle layer) | Nickel (Ni) Palladium nickel, (PdNi) |
| Metal surface soldering area (top layer) | Tin (Sn) |

Material data - housing

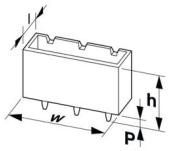
| | |
|---|---|
| Color (Housing) | black (9005) |
| Insulating material | LCP |
| Insulating material group | IIIb |
| CTI according to IEC 60112 | 175 |

| | |
|---|---|
| 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. |

## Dimensions

| | |
|---|---|
| Dimensional drawing |  |
| Pitch | 1.27 mm |
| Width [w] | 48.27 mm |
| Height [h] | 9.75 mm |
| Length [l] | 7.2 mm |
| Installed height | 9.05 mm |

### Application

| | |
|---|---|
| Contact cover | 0.9 mm |
| Center offset | ± 0.7 mm in longitudinal and transverse direction |
| Stack height | 10.8 mm Tolerance: +1,5 mm (in combination with Range of articles:FP 1,27/...-MV 1,75) |
| | 12.3 mm Tolerance: +1,5 mm (in combination with Range of articles:FP 1,27/...-MV 3,25) |
| Wipe length | 1.5 mm |
| Angular tolerance | ± 4 ° in longitudinal direction |
| | ± 2 ° in transverse direction |

### PCB design

| | |
|---|---|
| Pad geometry | 0.8 x 1.1 mm |
| Pin spacing | 1.27 mm |

## Mechanical tests

### Insertion and withdrawal forces

| | |
|---|---|
| Result | Test passed |
| No. of cycles | 500 |
| Insertion strength per pos. approx. | 0.5 N |
| Withdraw strength per pos. approx. | 0.5 N |

### Resistance of inscriptions

| | |
|---|---|
| Specification | IEC 60068-2-70:1995-12 |
| Result | Test passed |

Visual inspection

| | |
|---|---|
| Specification | IEC 60512-1-1:2002-02 |
| Result | Test passed |

Dimension check

| | |
|---|---|
| Specification | IEC 60512-1-2:2002-02 |
| Result | Test passed |

## Electrical tests

Thermal test | Test group C

| | |
|---|---|
| Specification | IEC 60512-5-2:2002-02 |
| Tested number of positions | 50 |

Insulation resistance

| | |
|---|---|
| Specification | IEC 60512-3-1:2002-02 |
| Insulation resistance, neighboring positions | ≥ 10 GΩ |

Air clearances and creepage distances |

| | |
|---|---|
| Insulating material group | IIIb |
| Comparative tracking index (IEC 60112) | CTI 175 |
| Rated insulation voltage (III/3) | 500 V |
| Rated insulation voltage (II/2) | 10 V |
| Rated surge voltage (II/2) | 0.8 kV |
| minimum clearance value - non-homogenous field (II/2) | 0.4 mm |
| minimum creepage distance (II/2) | 0.4 mm |
| Minimum value for clearance and creepage distance | 0.4 mm |

## Environmental and real-life conditions

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 ... 60.1 Hz) |
| Acceleration | 20g (60.1 Hz ... 2000 Hz) |
| Test duration per axis | 2.5 h |

Durability test

| | |
|---|---|
| Specification | IEC 60512-9-1:2010-03 (following) |
| Impulse withstand voltage at sea level | 0.8 kV |
| Contact resistance $R_1$ | 25 mΩ |
| Contact resistance $R_2$ | 25 mΩ |
| Insertion/withdrawal cycles | 500 |
| Insulation resistance, neighboring positions | ≥ 10 GΩ |

Climatic test

| | |
|---|---|
| Specification | IEC 60512-11-7:2003-05 |
| Corrosive stress | Method 1, 10 days |
| Power-frequency withstand voltage | 500 V AC |

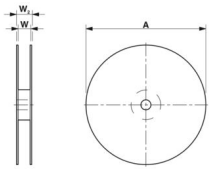
Shocks

| | |
|---|---|
| Specification | IEC 60068-2-27:2008-02 |
| Pulse shape | Semi-sinusoidal |
| Acceleration | 50g |
| Shock duration | 11 ms |
| Test directions | X-, Y- and Z-axis (pos. and neg.) |

Ambient conditions

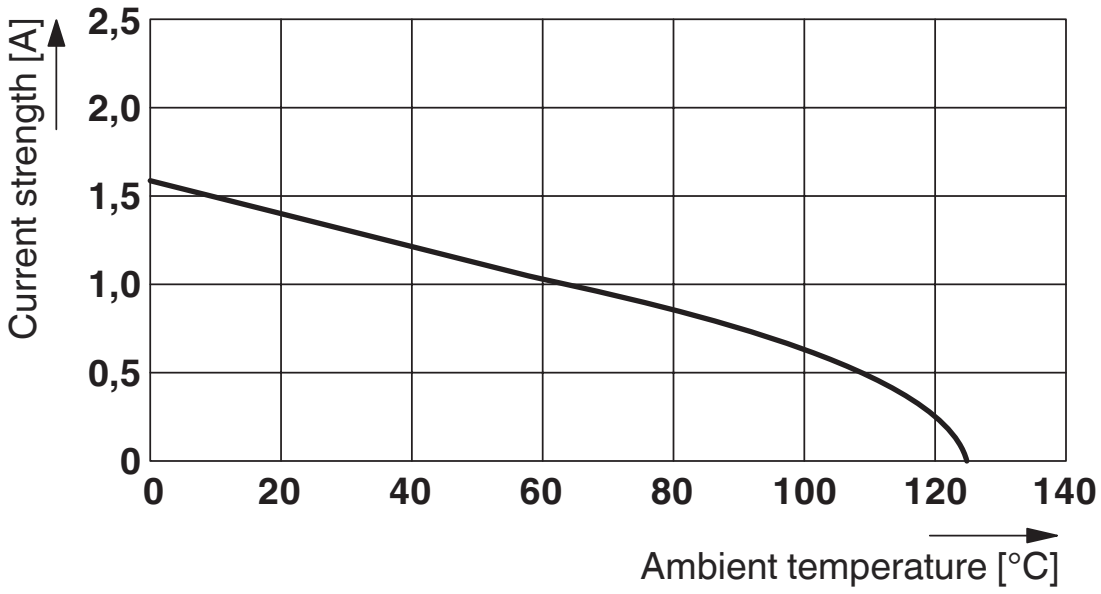
| | |
|---|---|
| Ambient temperature (operation) | -55 °C ... 125 °C |
| Ambient temperature (storage/transport) | -40 °C ... 70 °C |
| Relative humidity (storage/transport) | 30 % ... 70 % |
| Ambient temperature (assembly) | -5 °C ... 100 °C |

## Packaging specifications

| | |
|---|---|
| Dimensional drawing |  |
| Type of packaging | 72 mm wide tape |
| [W] tape width | 72 mm |
| [W2] coil overall dimension | 78.4 mm |
| [A] coil diameter | 330 mm |
| Outer packaging type | Transparent-Bag |
| ESD level | (D) electrostatically conductive |
| Specification | DIN EN 61340-5-1 (VDE 0300-5-1): 2008-07 |

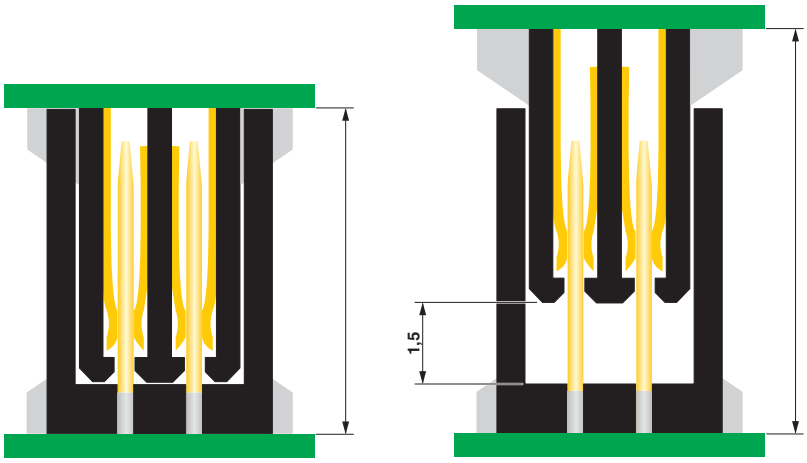
## Drawings

Diagram

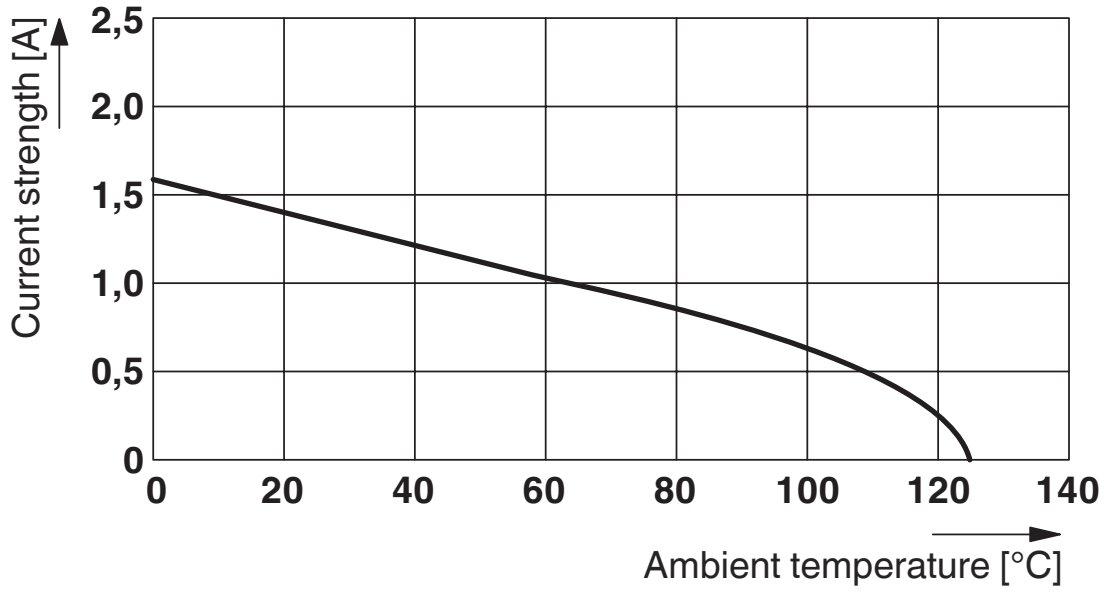



Type: FP 1,27/...-FV 9,05 with FP 1,27/...-MV 1,75

Schematic diagram



Diagram




Type: FP 1,27/...-FV 9,05 with FP 1,27/...-MV 3,25

## Classifications

### ECLASS

| | |
|---|---|
| ECLASS-11.0 | 27460201 |
| ECLASS-12.0 | 27460201 |
| ECLASS-13.0 | 27460201 |

### ETIM

| | |
|---|---|
| ETIM 8.0 | EC002637 |

### UNSPSC

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

## 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% |

## Accessories

### FP 1,27/ 68-MV 3,25 - SMD male connectors

1714932

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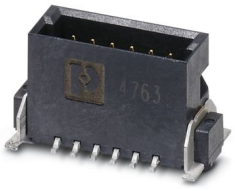



SMD male connector, nominal current: 1.4 A, Test voltage: 500 V AC, number of positions: 68, pitch: 1.27 mm, color: black, contact surface: Gold, contact connection type: Pin, mounting: SMD soldering

### FP 1,27/ 68-MV 1,75 - SMD male connectors

1714944

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SMD male connector, nominal current: 1.4 A, Test voltage: 500 V AC, number of positions: 68, pitch: 1.27 mm, color: black, contact surface: Gold, contact connection type: Pin, mounting: SMD soldering

# FP 1,27/ 68-FV 9,05 - SMD female connectors

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## FP 1,27/ 68-MH - SMD male connectors

1714921

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SMD male connector, nominal current: 1.4 A, Test voltage: 500 V AC, number of positions: 68, pitch: 1.27 mm, color: black, contact surface: Gold, contact connection type: Pin, mounting: SMD soldering

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