

# FP 1,27/ 12-FH - SMD female connectors



1714869

<https://www.phoenixcontact.com/us/products/1714869>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.

SMD female connector, nominal current: 1.4 A, Test voltage: 500 V AC, number of positions: 12, 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                          | 1714869       |
| Packing unit                         | 1 pc          |
| Minimum order quantity               | 560 pc        |
| Sales key                            | AA24          |
| Product key                          | AAXAAA        |
| GTIN                                 | 4055626400723 |
| Weight per piece (including packing) | 1.296 g       |
| Weight per piece (excluding packing) | 1.296 g       |
| Customs tariff number                | 85366930      |
| Country of origin                    | CZ            |

# FP 1,27/ 12-FH - SMD female connectors



1714869

<https://www.phoenixcontact.com/us/products/1714869>

## Technical data

### Product properties

|                      |                      |
|----------------------|----------------------|
| Product type         | SMD female connector |
| Product family       | FR 1,27/...-FH       |
| Number of positions  | 12                   |
| Pitch                | 1.27 mm              |
| Number of rows       | 2                    |
| Number of potentials | 12                   |
| 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.) |
| Nominal voltage $U_N$      | AC                                            |
| 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         |

# FP 1,27/ 12-FH - SMD female connectors



1714869

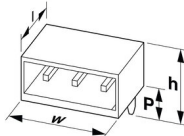
<https://www.phoenixcontact.com/us/products/1714869>

|                                        |     |
|----------------------------------------|-----|
| 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]           | 12.71 mm                                                                           |
| Height [h]          | 4.55 mm                                                                            |
| Length [l]          | 7.2 mm                                                                             |
| Installed height    | 3.8 mm                                                                             |

## Application

|                   |                                                                  |
|-------------------|------------------------------------------------------------------|
| Contact cover     | 0.9 mm                                                           |
| Center offset     | ± 0.7 mm in longitudinal and transverse direction                |
| Wipe length       | 1.5 mm                                                           |
| Angular tolerance | ± 4 ° in longitudinal direction<br>± 2 ° in transverse direction |

## PCB design

|              |              |
|--------------|--------------|
| Pad geometry | 0.8 x 0.8 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           |

# FP 1,27/ 12-FH - SMD female connectors



1714869

<https://www.phoenixcontact.com/us/products/1714869>

## 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 | $\geq 10 \text{ G}\Omega$ |

### 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) |
| Sweep speed            | 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 m $\Omega$                     |
| Contact resistance $R_2$                     | 25 m $\Omega$                     |
| Insertion/withdrawal cycles                  | 500                               |
| Insulation resistance, neighboring positions | $\geq 10 \text{ G}\Omega$         |

### Climatic test

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

# FP 1,27/ 12-FH - SMD female connectors



1714869

<https://www.phoenixcontact.com/us/products/1714869>

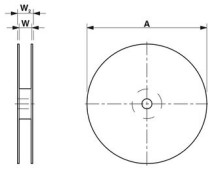
## Shocks

|                 |                                   |
|-----------------|-----------------------------------|
| 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

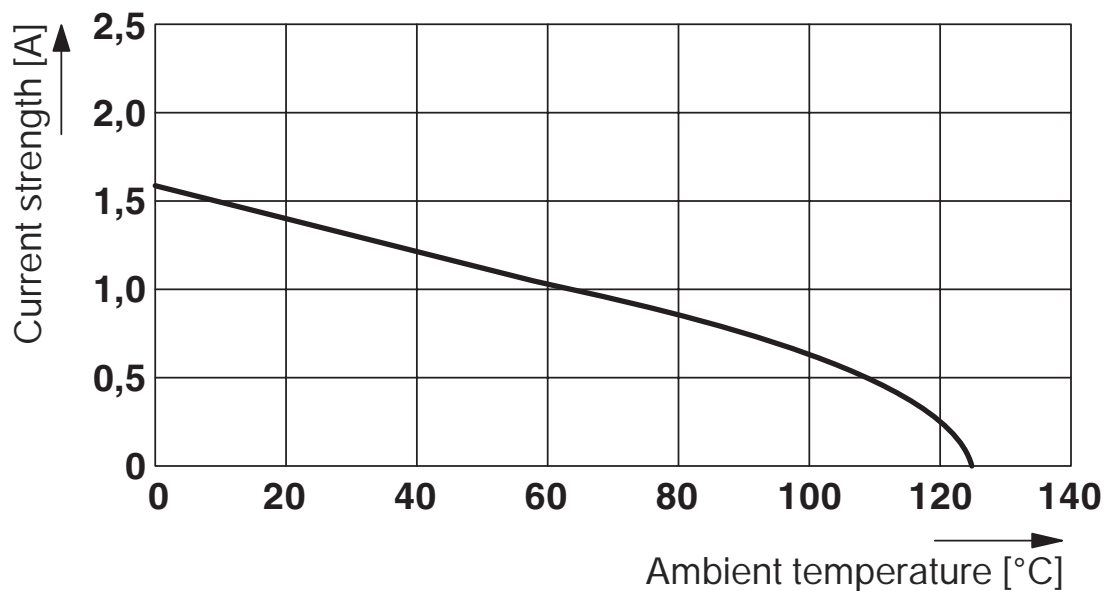
|                                         |                   |
|-----------------------------------------|-------------------|
| Ambient temperature (operation)         | -55 °C ... 125 °C |
| Ambient temperature (storage/transport) | -40 °C ... 70 °C  |
| Relative humidity (storage/transport)   | 30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

## Packaging specifications

|                             |                                                                                     |
|-----------------------------|-------------------------------------------------------------------------------------|
| Dimensional drawing         |  |
| Type of packaging           | 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                                                                     |
| ESD level                   | (D) electrostatically conductive                                                    |
| Specification               | DIN EN 61340-5-1 (VDE 0300-5-1): 2008-07                                            |

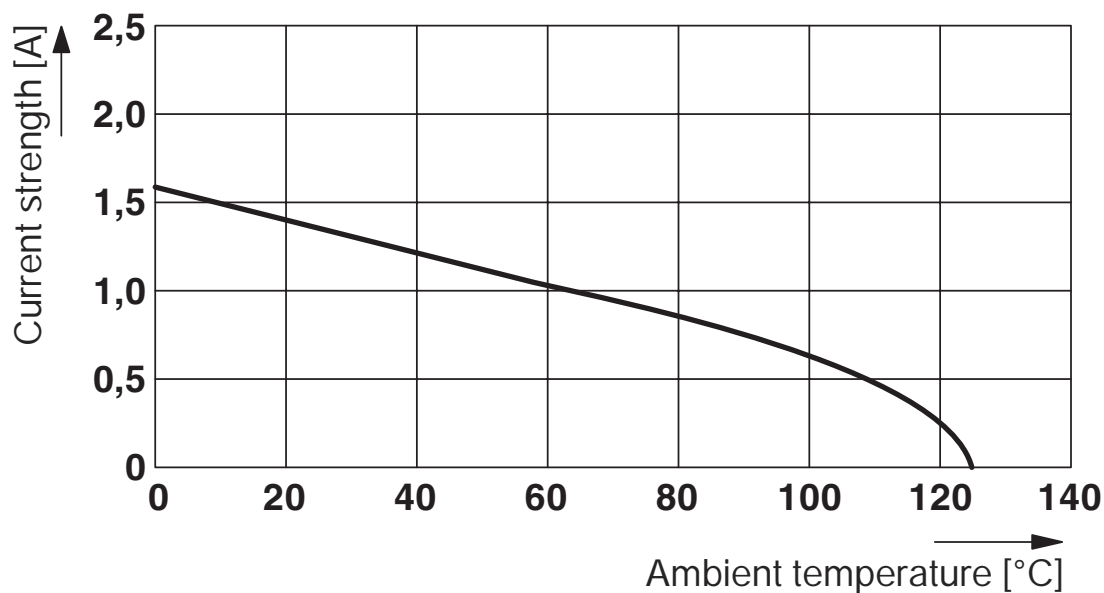
## Drawings

Diagram



Type: FP 1,27/...-FH with FP 1,27/...-MV 1,75

Diagram



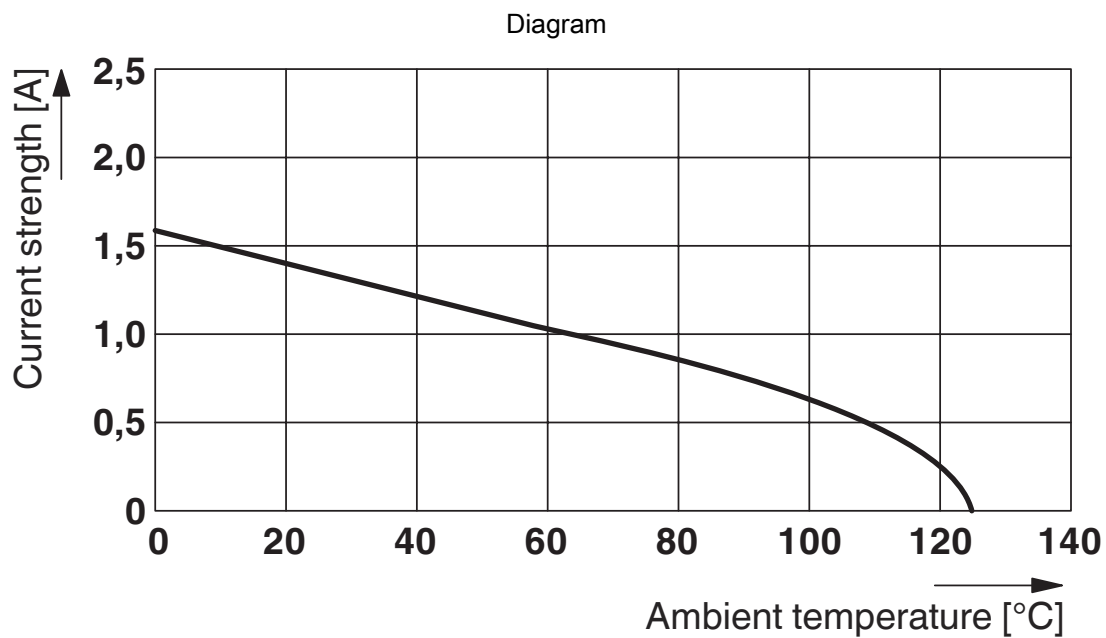
Type: FP 1,27/...-FH with FP 1,27/...-MV 3,25

# FP 1,27/ 12-FH - SMD female connectors



1714869

<https://www.phoenixcontact.com/us/products/1714869>



Type: FP 1,27/...-FH with FP 1,27/...-MH

# FP 1,27/ 12-FH - SMD female connectors



1714869

<https://www.phoenixcontact.com/us/products/1714869>

## Approvals

🔗 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1714869>



**cULus Recognized**

Approval ID: E118976-20170331



# FP 1,27/ 12-FH - SMD female connectors



1714869

<https://www.phoenixcontact.com/us/products/1714869>

## Classifications

### ECLASS

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

### ETIM

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

### UNSPSC

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

# FP 1,27/ 12-FH - SMD female connectors



1714869

<https://www.phoenixcontact.com/us/products/1714869>

## Environmental product compliance

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

# FP 1,27/ 12-FH - SMD female connectors



1714869

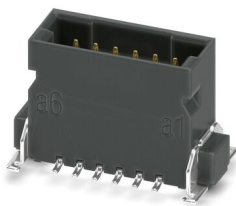
<https://www.phoenixcontact.com/us/products/1714869>

## Accessories

### FP 1,27/ 12-MV 3,25 - SMD male connectors

1714924

<https://www.phoenixcontact.com/us/products/1714924>



SMD male connector, nominal current: 1.4 A, Test voltage: 500 V AC, number of positions: 12, pitch: 1.27 mm, color: black, contact surface: Gold, contact connection type: Pin, mounting: SMD soldering

---

### FP 1,27/ 12-MV 1,75 - SMD male connectors

1714934

<https://www.phoenixcontact.com/us/products/1714934>



SMD male connector, nominal current: 1.4 A, Test voltage: 500 V AC, number of positions: 12, pitch: 1.27 mm, color: black, contact surface: Gold, contact connection type: Pin, mounting: SMD soldering

# FP 1,27/ 12-FH - SMD female connectors

1714869

<https://www.phoenixcontact.com/us/products/1714869>



## FP 1,27/ 12-MH - SMD male connectors

1714912

<https://www.phoenixcontact.com/us/products/1714912>

SMD male connector, nominal current: 1.4 A, Test voltage: 500 V AC, number of positions: 12, pitch: 1.27 mm, color: black, contact surface: Gold, contact connection type: Pin, mounting: SMD soldering



---

Phoenix Contact 2023 © - all rights reserved

<https://www.phoenixcontact.com>

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