

# FP 0,8/ 52-FV-SH 4,85 - SMD female connector shielded

1043713

<https://www.phoenixcontact.com/us/products/1043713>

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Shielded SMD female connector, nominal current: 1.7 A, test voltage: 500 V AC, number of positions: 52, pitch: 0.8 mm, color: black, contact surface: Au, contact connection type: Socket, 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                          | 1043713       |
| Packing unit                         | 500 pc        |
| Minimum order quantity               | 500 pc        |
| Sales key                            | AA23          |
| Product key                          | AAWDDDB       |
| GTIN                                 | 4055626612393 |
| Weight per piece (including packing) | 2.777 g       |
| Weight per piece (excluding packing) | 1.55 g        |
| Customs tariff number                | 85366930      |
| Country of origin                    | CZ            |

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## Technical data

### Product properties

|                           |                               |
|---------------------------|-------------------------------|
| Product type              | Shielded SMD female connector |
| Product family            | FP 0,8/...-FV-SH 4,85         |
| Number of positions       | 52                            |
| 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        | 15 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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|  |      |
|--|------|
| 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]           | 25.58 mm |
| Height [h]          | 5.45 mm  |
| Length [l]          | 7.1 mm   |
| Installed height    | 4.85 mm  |

## Application

|  |  |
|--|--|
| Contact cover                              | 0.8 mm   |
| Center offset                              | ± 0.7 mm in longitudinal and transverse direction  |
| Stack height                               | 6 mm Tolerance: +1,5 mm (in combination with Range of articles:FP 0,8/...-MV-SH 1,15)    |
|  | 7.5 mm Tolerance: +1,5 mm (in combination with Range of articles:FP 0,8/...-MV-SH 2,65)  |
|  | 12 mm Tolerance: +1,5 mm (in combination with Range of articles:FP 0,8/...-MV-SH 7,15)   |
|  | 13.5 mm Tolerance: +1,5 mm (in combination with Range of articles:FP 0,8/...-MV-SH 8,65) |
| 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 1.1 mm |
|--------------|--------------|

## Electrical tests

# FP 0,8/ 52-FV-SH 4,85 - SMD female connector shielded



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## 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 | $\geq 5 \text{ G}\Omega$ |

## 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) |
| Impulse withstand voltage at sea level       | 0.8 kV                            |
| Contact resistance $R_1$                     | 15 m $\Omega$                     |
| Contact resistance $R_2$                     | 15 m $\Omega$                     |
| Insertion/withdrawal cycles                  | 500                               |
| Insulation resistance, neighboring positions | $\geq 5 \text{ G}\Omega$          |

### Climatic test

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

### 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           | 200 m/s <sup>2</sup> (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 <sup>2</sup>              |
| 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<br>IEC 61373:2010-05 |
| Spectrum      | Long life test category 2, bogie-mounted                 |

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|                        |  |
|------------------------|--|
| Frequency              | $f_1 = 5 \text{ Hz}$ to $f_2 = 250 \text{ Hz}$ |
| ASD level              | $6.12 \text{ (m/s}^2\text{)}^2\text{/Hz}$      |
| Acceleration           | $30.6 \text{ m/s}^2$                           |
| Test duration per axis | 5 h  |
| Test directions        | X-, Y- and Z-axis                              |
| Contact interruption   | $< 1 \mu\text{s}$                              |
| Result                 | Test passed                                    |

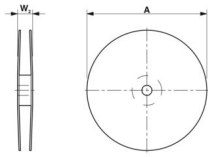
## Railway application: Shocks

|                                |  |
|--------------------------------|--|
| Specification                  | DIN EN 50155 (VDE 0115-200):2022-06<br>IEC 61373:2010-05 |
| Pulse shape                    | Semi-sinusoidal  |
| Acceleration                   | $490 \text{ m/s}^2$                                      |
| Shock duration                 | 11 ms  |
| Number of shocks per direction | 3  |
| Test directions                | X-, Y- and Z-axis (pos. and neg.)                        |
| Contact interruption           | $< 1 \mu\text{s}$  |
| Result                         | Test passed  |

## Ambient conditions

|   |   |
|---|---|
| Ambient temperature (storage/transport) | $-40 \text{ }^\circ\text{C} \dots 70 \text{ }^\circ\text{C}$  |
| Relative humidity (storage/transport)   | 30 % ... 70 %   |
| Ambient temperature (assembly)          | $-5 \text{ }^\circ\text{C} \dots 100 \text{ }^\circ\text{C}$  |
| Ambient temperature (operation)         | $-55 \text{ }^\circ\text{C} \dots 125 \text{ }^\circ\text{C}$ |

## Packaging specifications

|                             |  |
|-----------------------------|--|
| Dimensional drawing         |  |
| Type of packaging           | 16 mm wide tape  |
| [W] tape width              | 16 mm  |
| [W2] coil overall dimension | $\leq 22.4 \text{ mm}$   |
| [A] coil diameter           | $\leq 330 \text{ mm}$  |
| Outer packaging type        | Transparent-Bag  |

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## Drawings

Schematic diagram



Diagram



Type: FP 0,8/...-MV-SH 2,65 with FP 0,8/...-FV-SH 4,85

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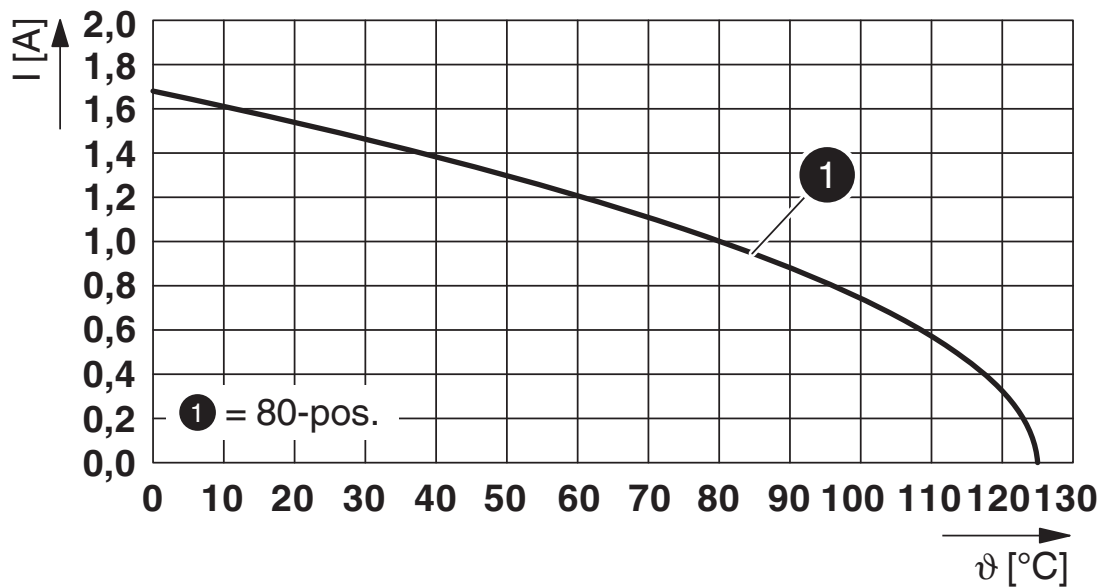
<https://www.phoenixcontact.com/us/products/1043713>

Diagram



Type: FP 0,8/...-MV-SH 1,15 with FP 0,8/...-FV-SH 4,85

Diagram



Type: FP 0,8/...-MV-SH 7,15 with FP 0,8/...-FV-SH 4,85 - contacts

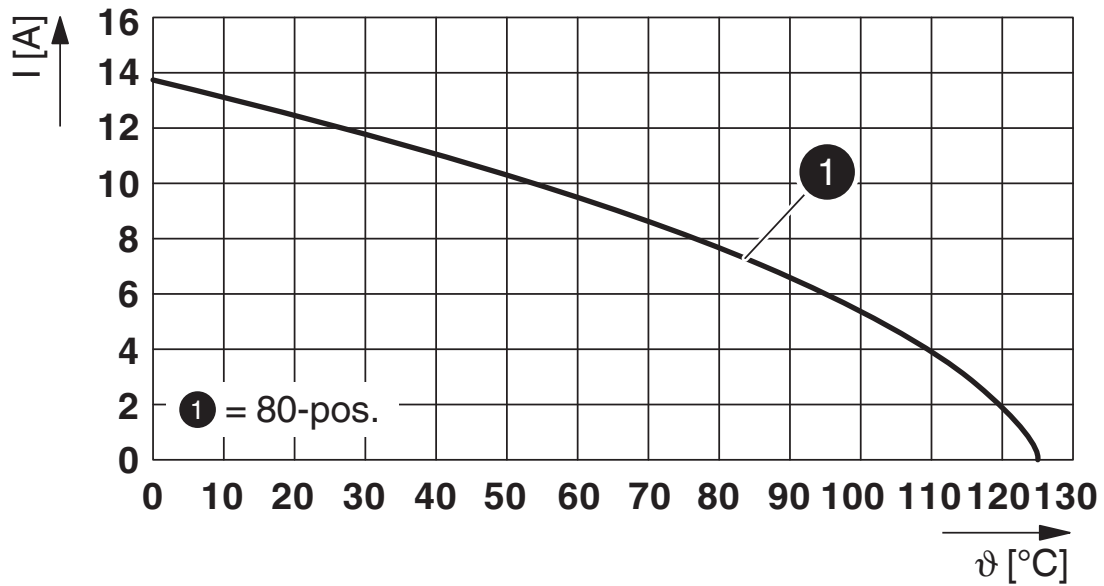
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Diagram



Type: FP 0,8/...-MV-SH 7,15 with FP 0,8/...-FV-SH 4,85 - shroud

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1043713>



**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% |
|-------------------------------------|----------------------------|

### EF3.1 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 0.585 kg CO2e |
|---------|---------------|

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