

# FP 1,27/ 40-FH - SMD female connectors



1714877

<https://www.phoenixcontact.com/us/products/1714877>

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SMD female connector, nominal current: 1.4 A, Test voltage: 500 V AC, number of positions: 40, 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	1714877
Packing unit	560 pc
Minimum order quantity	560 pc
Sales key	AA24
Product key	AAXAAA
GTIN	4055626400778
Weight per piece (including packing)	2.38 g
Weight per piece (excluding packing)	2.22 g
Customs tariff number	85366930
Country of origin	CZ

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## Technical data

### Product properties

Product type	SMD female connector
Product family	FR 1,27/...-FH
Number of positions	40
Pitch	1.27 mm
Number of rows	2
Number of potentials	40
Pin layout	Linear pad geometry

### Electrical properties

Nominal current $I_N$	1.4 A (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

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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.
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## Dimensions

Dimensional drawing	
Pitch	1.27 mm
Width [w]	30.49 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 ± 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

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## 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

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## 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

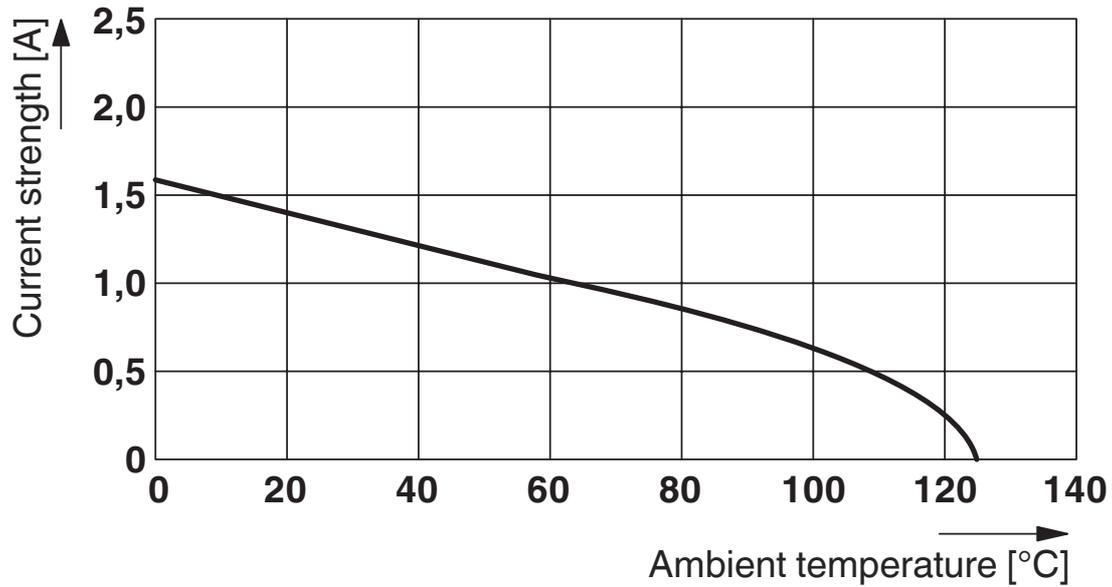
Dimensional drawing	
Type of packaging	44 mm wide tape
[W] tape width	44 mm
[W2] coil overall dimension	50.4 mm
[A] coil diameter	330 mm
Outer packaging type	Transparent-Bag
ESD level	(D) electrostatically conductive
Specification	DIN EN 61340-5-1 (VDE 0300-5-1): 2008-07

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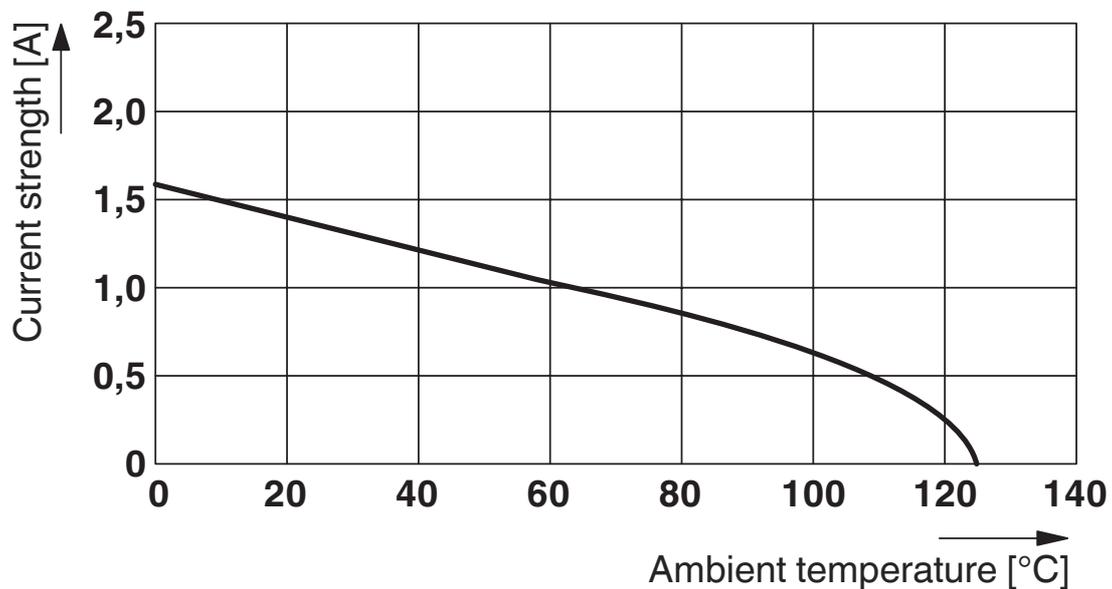
## Drawings

Diagram



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

Diagram



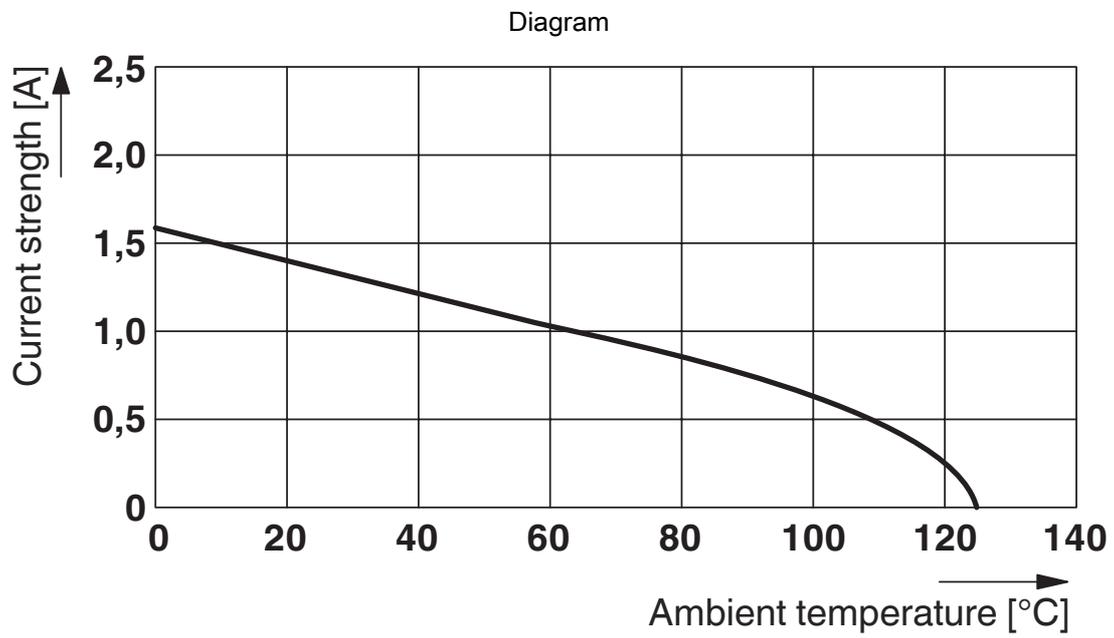
Type: FP 1,27/...-FH with FP 1,27/...-MV 3,25

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

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1714877>



**cULus Recognized**

Approval ID: E118976-20170331

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## Classifications

### ECLASS

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

### ETIM

ETIM 8.0	EC002637
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### UNSPSC

UNSPSC 21.0	39121400
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## Environmental product compliance

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

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## Accessories

### FP 1,27/ 40-MV 3,25 - SMD male connectors

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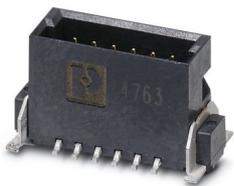
SMD male connector, nominal current: 1.4 A, Test voltage: 500 V AC, number of positions: 40, pitch: 1.27 mm, color: black, contact surface: Gold, contact connection type: Pin, mounting: SMD soldering

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### FP 1,27/ 40-MV 1,75 - SMD male connectors

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SMD male connector, nominal current: 1.4 A, Test voltage: 500 V AC, number of positions: 40, pitch: 1.27 mm, color: black, contact surface: Gold, contact connection type: Pin, mounting: SMD soldering

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## FP 1,27/ 40-MH - SMD male connectors

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