FP 1,27/ 50-FH - SMD female connectors

1714878

https://www.phoenixcontact.com/us/products/1714878

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SMD female connector, nominal current: 1.4 A, Test voltage: 500 V AC, number of positions: 50, 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	1714878
Packing unit	560 pc
Minimum order quantity	560 pc
Sales key	AA24
Product key	AAXAAA
GTIN	4055626400785
Weight per piece (including packing)	2.843 g
Weight per piece (excluding packing)	2.8 g
Customs tariff number	85366930
Country of origin	CZ

Technical data

Product properties

Product type	SMD female connector
Product family	FR 1,27/...-FH
Number of positions	50
Pitch	1.27 mm
Number of rows	2
Number of potentials	50
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.)
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)

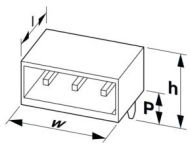
Material data - housing

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]	36.84 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

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

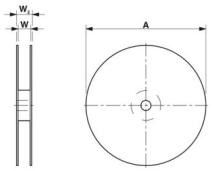
Shocks

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

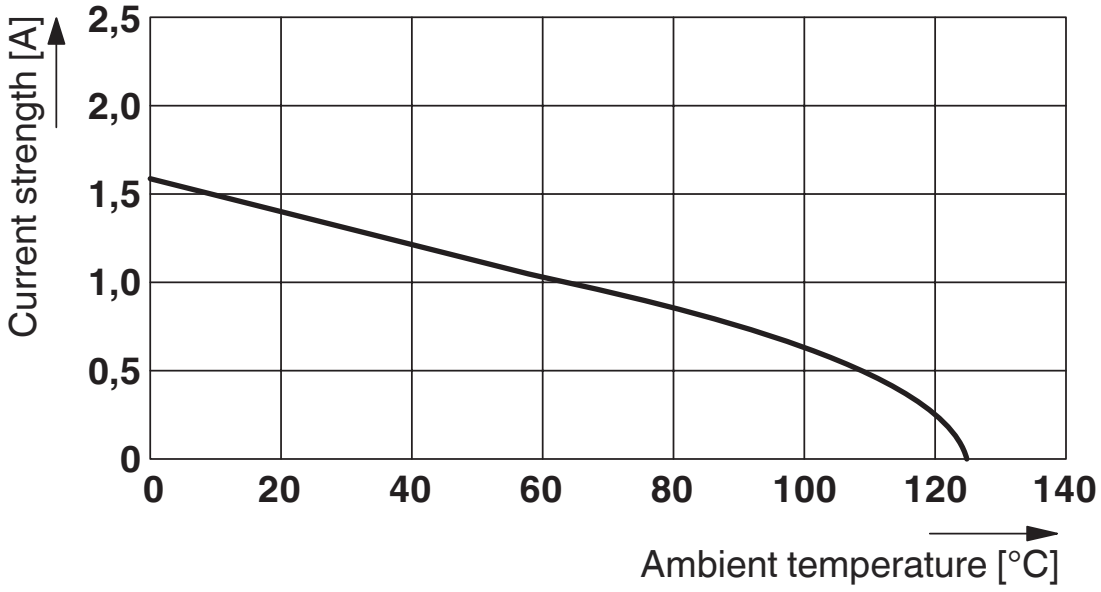
Ambient temperature (operation)	-55 °C ... 125 °C
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

Packaging specifications

Dimensional drawing	
Type of packaging	56 mm wide tape
[W] tape width	56 mm
[W2] coil overall dimension	62.4 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

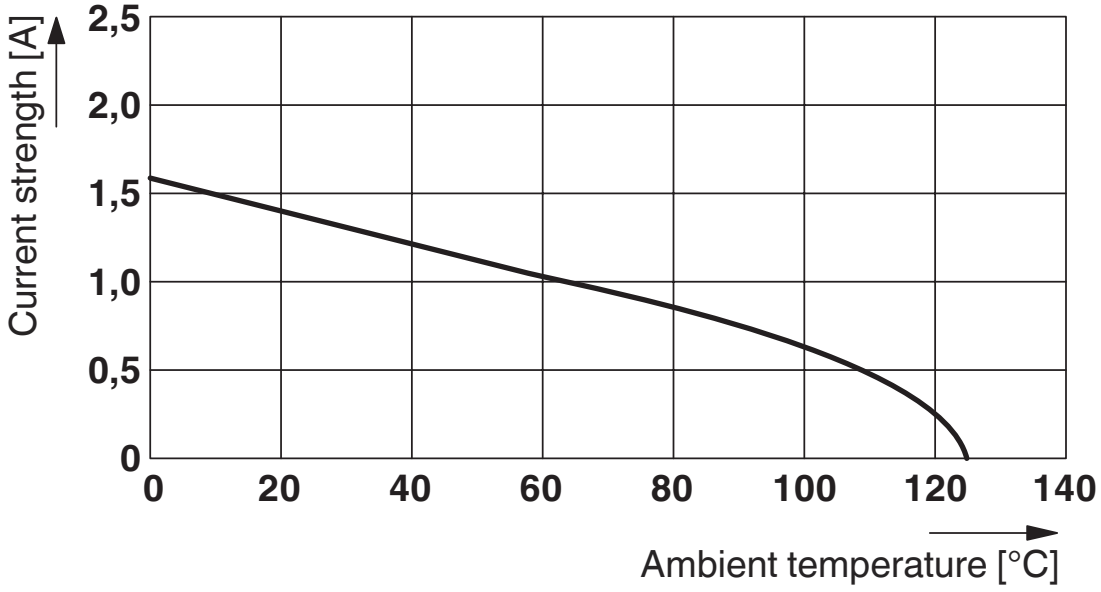
Drawings

Diagram



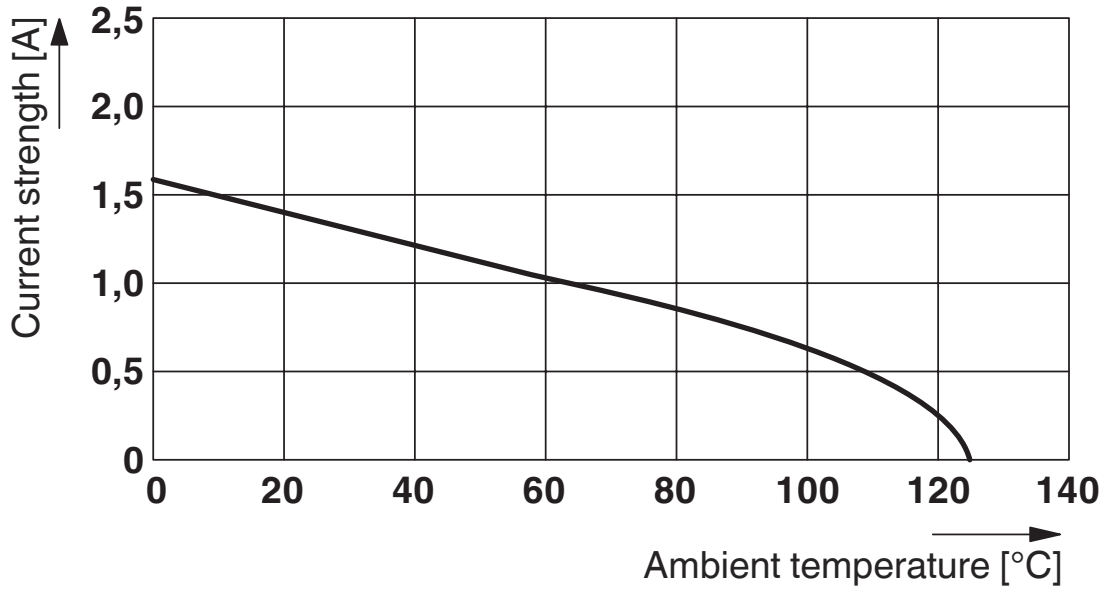
Type: FP 1,27/...-FH with FP 1,27/...-MV 1,75

Diagram



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

Diagram



Type: FP 1,27/...-FH 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/ 50-MV 3,25 - SMD male connectors

1714931

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SMD male connector, nominal current: 1.4 A, Test voltage: 500 V AC, number of positions: 50, pitch: 1.27 mm, color: black, contact surface: Gold, contact connection type: Pin, mounting: SMD soldering

FP 1,27/ 50-MV 1,75 - SMD male connectors

1714943

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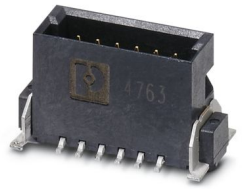

SMD male connector, nominal current: 1.4 A, Test voltage: 500 V AC, number of positions: 50, pitch: 1.27 mm, color: black, contact surface: Gold, contact connection type: Pin, mounting: SMD soldering

FP 1,27/ 50-FH - SMD female connectors

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FP 1,27/ 50-MH - SMD male connectors

1714920

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SMD male connector, nominal current: 1.4 A, Test voltage: 500 V AC, number of positions: 50, pitch: 1.27 mm, color: black, contact surface: Gold, contact connection type: Pin, mounting: SMD soldering

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