

# FQ 2,54D/ 20-SH-0-BT - Female strip

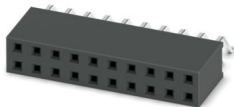
1156904

<https://www.phoenixcontact.com/us/products/1156904>

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SMD socket, nominal current: 3 A, test voltage: 500 V AC, number of positions: 20, pitch: 2.54 mm, color: black, contact surface: Au, contact connection type: Socket, mounting: SMD soldering



## Your advantages

- Reliable mechanical and electrical connections thanks to the double-sided contact system
- Designed for integration into the SMT soldering process
- Clear and cost-optimized design
- Suitable for a multitude of applications
- Stacked, coplanar or orthogonal PCB connections enable maximum flexibility in the device

## Commercial data

Item number	1156904
Packing unit	190 pc
Minimum order quantity	190 pc
Sales key	AA24
Product key	AAXABA
GTIN	4063151160272
Weight per piece (including packing)	2.925 g
Weight per piece (excluding packing)	2.22 g
Customs tariff number	85366930
Country of origin	CN

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## Technical data

### 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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### Product properties

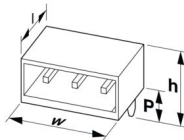
Product type	SMD socket
Product family	FQ 2,54D/...-SH
Number of positions	20
Pitch	2.54 mm
Number of rows	2
Pin layout	Linear pad geometry
Electrical characteristic	shielded

### Electrical properties

#### Properties

Nominal current $I_N$	3 A (at 20°C 80-pos.)
Contact resistance	20 mΩ
Test voltage	500 V AC IEC 60512-4-1:2003-05
Electrical characteristic	shielded

### Dimensions

Dimensional drawing	
Pitch	2.54 mm
Width [w]	25.8 mm
Height [h]	5 mm
Length [l]	15.74 mm
Installed height	5 mm

#### Application

Contact cover	0.4 mm
Wipe length	1.3 mm

#### PCB design

Pad geometry	1.04 x 1.32 mm
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### Material specifications

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## 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)
Metal surface soldering area (top layer)	Tin (Sn)

## Material data - housing

Color (Housing)	black (9005)
Insulating material	PA
Insulating material group	I
CTI according to IEC 60112	600
Flammability rating according to UL 94	V0

## Connector

### Connection 1

Insulating material	PA
CTI according to IEC 60112	600

## Electrical tests

### 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	> 1 GΩ

### Air clearances and creepage distances |

Insulating material group	I
Minimum value for clearance and creepage distance	0.4 mm

## Mechanical tests

### Insertion and withdrawal forces

Result	Test passed
No. of cycles	100
Insertion strength per pos. approx.	2.9 N
Withdraw strength per pos. approx.	2.9 N

### 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

## Environmental and real-life conditions

### Durability test

Specification	IEC 60512-9-1:2010-03 (following)
Contact resistance $R_1$	20 m $\Omega$
Contact resistance $R_2$	30 m $\Omega$
Insertion/withdrawal cycles	100
Insulation resistance, neighboring positions	> 1 G $\Omega$

### Vibration test

Specification	IEC 60068-2-6:2007-12
Frequency	10 - 55 - 10 Hz
Sweep speed	1 octave/min
Amplitude	1.52 mm
Acceleration	181 m/s <sup>2</sup>
Test duration per axis	2 h
Test directions	X-, Y- and Z-axis

### Ambient conditions

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

### Ambient conditions

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

## Mounting

Mounting type	SMD soldering
Pin layout	Linear pad geometry

### Processing notes

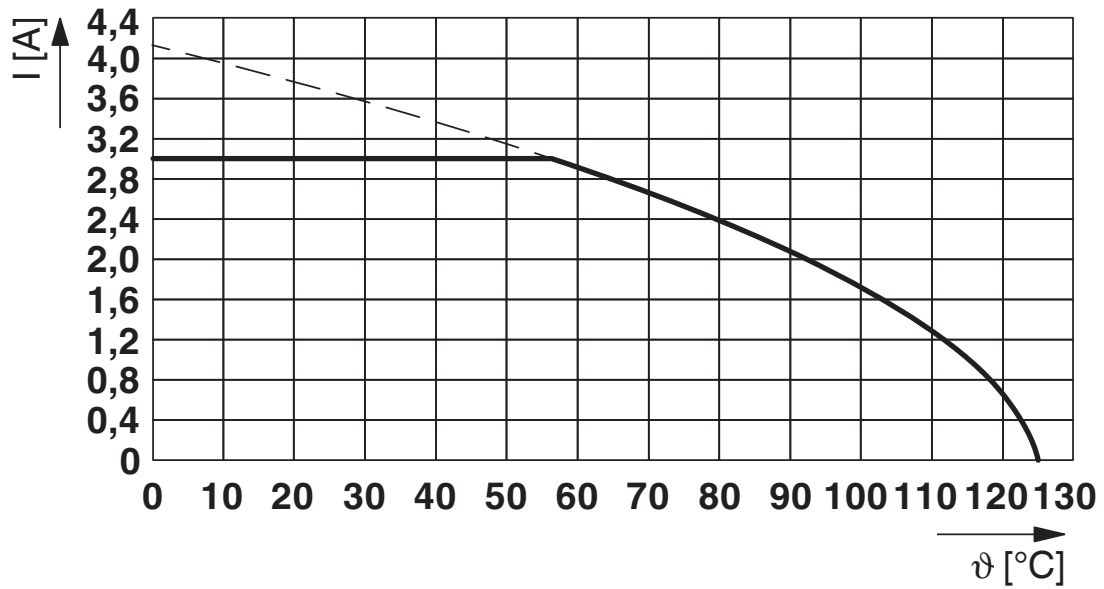
Process	Reflow soldering
Moisture Sensitive Level	MSL 1
Classification temperature $T_c$	260 °C

## Packaging specifications

Type of packaging	Tube magazine
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Drawings

Diagram



Type: FQ 2,54D/...-SH-O-BT with FQ 2,54D/...-PH-1-BT

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1156904>

 <b>cULus Recognized</b> Approval ID: E118976				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
keine				
	30 V	3 A	-	-

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## Classifications

### ECLASS

ECLASS-13.0	27460201
ECLASS-15.0	27460201

### ETIM

ETIM 10.0	EC002637
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### UNSPSC

UNSPSC 21.0	39121400
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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### 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%
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### EF3.1 Climate Change

CO2e kg	0.238 kg CO2e
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