

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. |
|--------------------|--|

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 |

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

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 ² |
| Test duration per axis | 2 h |
| Test directions | X-, Y- and Z-axis |

Durability test

| | |
|--|-----------------------------------|
| Specification | IEC 60512-9-1:2010-03 (following) |
| Contact resistance R ₁ | 20 mΩ |
| Contact resistance R ₂ | 30 mΩ |
| Insertion/withdrawal cycles | 100 |
| Insulation resistance, neighboring positions | > 1 GΩ |

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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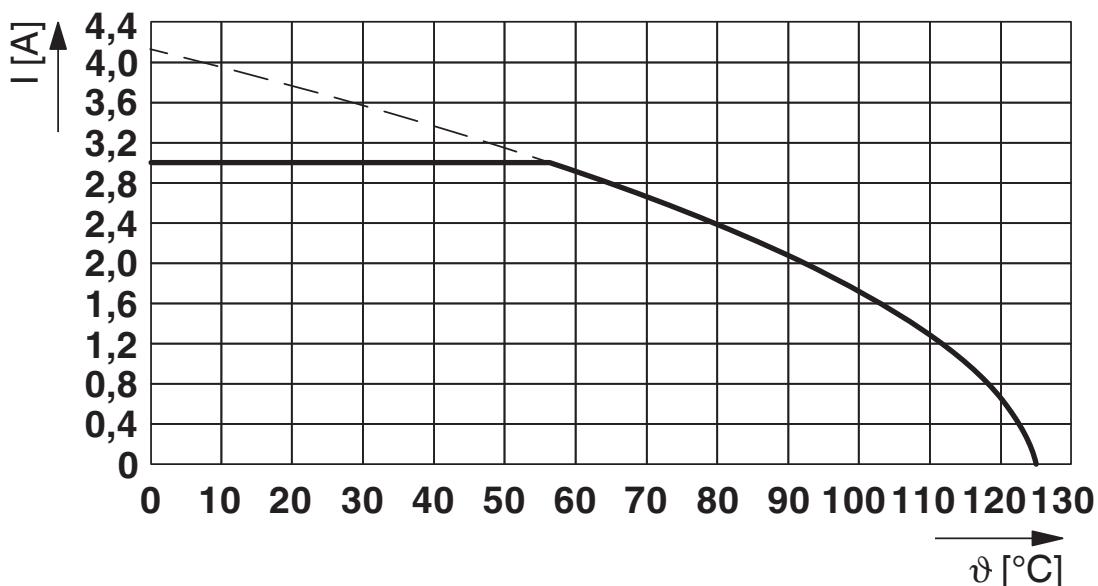


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Drawings

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>

| cULus Recognized | | | | |
|------------------|--------------------------------|--------------------------------|-------------------|-------------------------------|
| | Nominal voltage U _N | Nominal current I _N | Cross section AWG | Cross section mm ² |
| keine | 30 V | 3 A | - | - |

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27460201 |
| ECLASS-15.0 | 27460201 |

ETIM

| | |
|----------|----------|
| ETIM 9.0 | 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% |
|-------------------------------------|----------------------------|

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