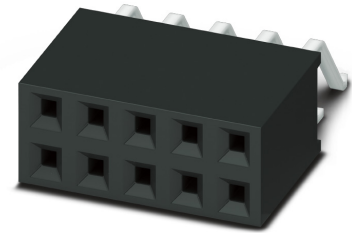


Data sheet

Order No.: 1156904

Type: FQ 2,54D/ 20-SH-0-BT

SMD socket, Reflow soldering



The figure shows the 10-pos. version

1 Main features



| | | | |
|----------------|--------------|------------------------|---------------|
| • No. of pos. | 20 | • Nominal current | 3 A |
| • Test voltage | 500 V AC | • Mounting type | SMD soldering |
| • Color | black (9005) | • Connection direction | 0 ° |
| • Pitch | 2.54 mm | • Type of packaging | Tube magazine |

2 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



Make sure you always use the latest documentation.

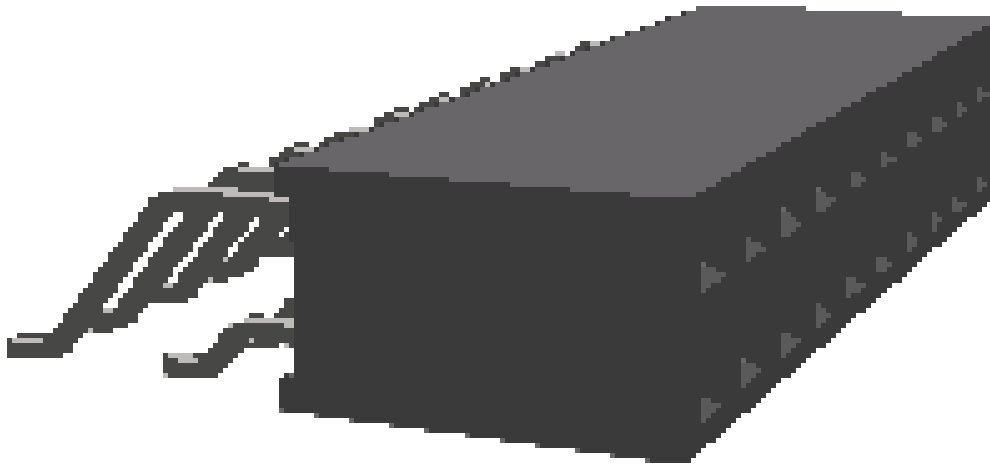
It can be downloaded at: phoenixcontact.net/product/1156904

3 Table of contents

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1156904 FQ 2,54D/ 20-SH-0-BT

4 3D model in PDF can be activated (Acrobat Reader only)



1156904 FQ 2,54D/ 20-SH-0-BT**5 General Technical Data****5.1 item properties**

| | |
|--|----------------------|
| Order No. | 1156904 |
| Type | FQ 2,54D/ 20-SH-0-BT |
| Connector system | FINEPITCH FQ 2,54 |
| Product type | SMD socket |
| Type of contact | Female connector |
| Range of articles | FQ 2,54D/...-SH |
| Pitch | 2.54 mm |
| Number of positions | 20 |
| Number of levels | 2 |
| Type of locking | without |
| Mounting type | SMD soldering |
| Connection direction of the connector to the PCB | 0 ° |
| Pin layout | Linear pad geometry |

1156904 FQ 2,54D/ 20-SH-0-BT**6 Mounting****6.1 Flange mounting**

| | |
|-----------------|---------|
| Type of locking | without |
|-----------------|---------|

6.2 Material of metal parts

| | |
|--|---|
| Note | WEEE/RoHS-compliant, whisker-free acc. to IEC 60068-2-82/JEDEC JESD 201 |
| Contact material | Cu alloy |
| Surface contact area | Nickel (Ni) , Gold (Au) |
| Soldering area surface | Tin (Sn) |
| Surface characteristics | Selective coating |
| Insulating material data | Housing |
| Color | black (9005) |
| Insulating material | PA |
| Insulating material group | I |
| CTI according to IEC 60112 | 600 |
| Flammability rating according to UL 94 | V0 |

1156904 FQ 2,54D/ 20-SH-0-BT**7 Dimensions****7.1 Dimensions for the product**

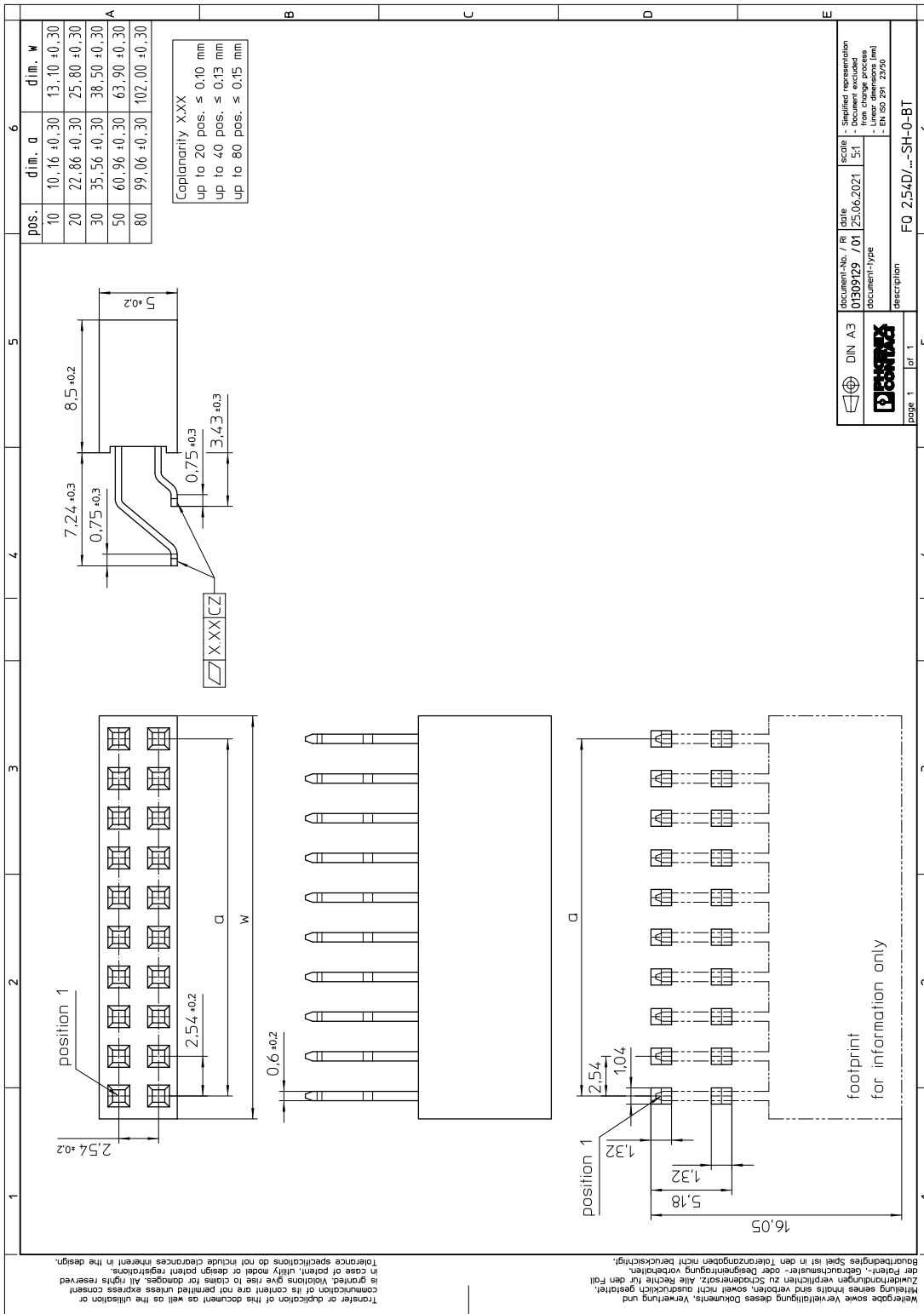
| | |
|------------------|-----------|
| Length | 15.74 mm |
| Width | 25.8 mm |
| Total height | 5 mm |
| Installed height | 5 mm |
| Coplanarity | ≤ 0.15 mm |

7.2 Dimensions for the application

| | |
|----------------|--------|
| Contact cover | 0.4 mm |
| Overlap length | 1.3 mm |

1156904 FQ 2,54D/ 20-SH-0-BT

8 Series drawing



9 Product notes

9.1 General information

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.

10 Packaging information

Type of packaging

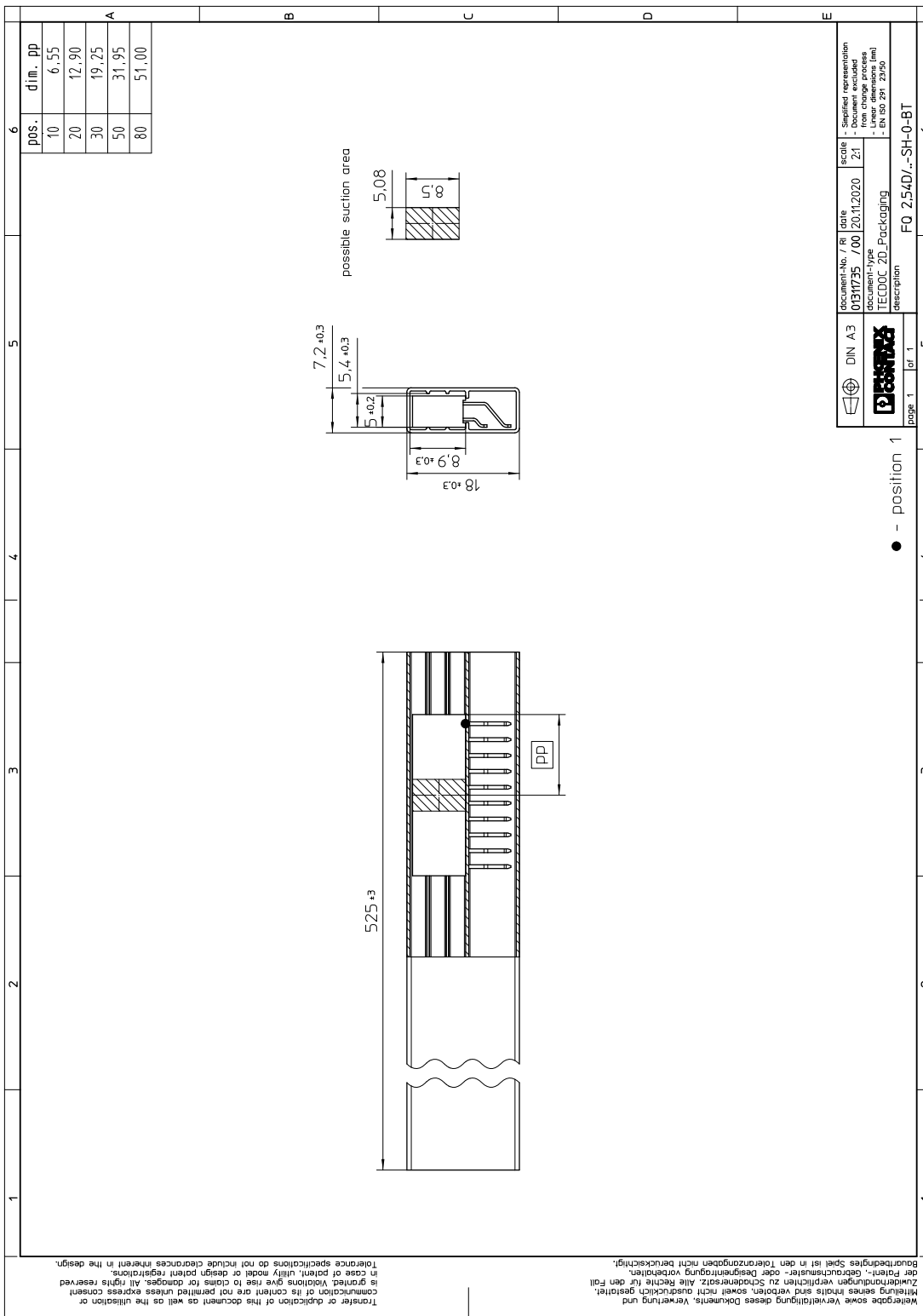
Tube magazine

Pieces per package

190

1156904 FQ 2,54D/ 20-SH-0-BT

11 Blister drawing



12 Application

12.1 Temperature limit values

| | |
|---|-------------------|
| Ambient temperature (storage/transport) | -40 °C ... 70 °C |
| Ambient temperature (assembly) | -5 °C ... 100 °C |
| Ambient temperature (operation) | -40 °C ... 125 °C |

1156904 FQ 2,54D/ 20-SH-0-BT

13 General tests

13.1 Specification

Brief description

Board-to-board connectors

1156904 FQ 2,54D/ 20-SH-0-BT**14 Mechanical tests****14.1 Insertion and withdrawal force per contact**

| | |
|--|--|
| Insertion and withdrawal force per contact | ≤ 2.9 N |
| Specification | IEC 60512-9-1:2010-03 (following) 100 Insertion/withdrawal cycles |

1156904 FQ 2,54D/ 20-SH-0-BT**15 Electrical tests**

| | |
|--------------------------|-------------------------------------|
| Nominal current at 20 °C | 3 A IEC 60512-5-2:2002-02 (80-pos.) |
| Test voltage | 500 V AC IEC 60512-4-1:2003 |

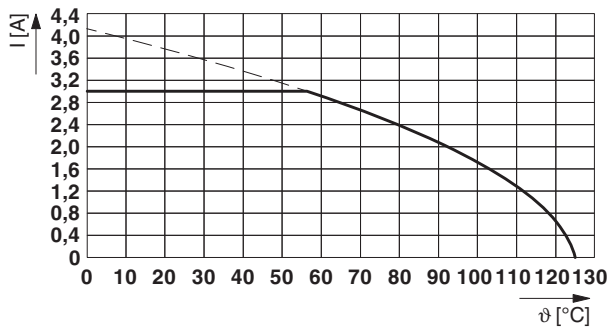
15.1 Air and creepage distances

| | |
|---|--------|
| Minimum value for clearance and creepage distance | 0.4 mm |
|---|--------|

1156904 FQ 2,54D/ 20-SH-0-BT**16 Current carrying capacity/derating curves**

| | |
|------------------|----------------------------|
| Specification | IEC 60512-5-2:2002-02 |
| Note | max. 3 A at 20°C (80-pos.) |
| Reduction factor | 0.8 |

Type: FQ 2,54D/...-SH-0-BT with FQ 2,54D/...-PH-1-BT

**16.1 Insulation resistance**

| | |
|-----------------------|--|
| Insulation resistance | > 1 G Ω , (IEC 60512-3-1:2002-02) |
|-----------------------|--|

16.2 forward resistance

| | |
|--------------------|--|
| Contact resistance | ≤ 30 m Ω , (IEC 60512-2-1:2002-02) |
|--------------------|--|

16.3 Vibration test

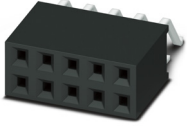
| | |
|------------------------|-----------------------|
| Specification | IEC 60068-2-6:2007-12 |
| Result | Test passed |
| Frequency | 10 - 55 - 10 Hz |
| Sweep speed | 1 octave/min |
| Amplitude | 1.52 mm |
| Acceleration | 181 m/s ² |
| Test duration per axis | 2 h |
| Test directions | X-, Y- and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

1156904 FQ 2,54D/ 20-SH-0-BT**17 Commercial Data**

| | |
|--------------------|--|
| Order No. | 1156904 |
| Type | FQ 2,54D/ 20-SH-0-BT |
| Pieces per package | 190 |
| Net weight | 2.22 g |
| GTIN | 4063151160272 |
| | Information that applies locally, see link on page 1 |

1156904 FQ 2,54D/ 20-SH-0-BT

18 Combination tests

**FQ 2,54D/...-SH****FQ 2,54D/...-PH****Mechanical tests**

Insertion/withdrawal force per position

approx. 2.9 N / 2.9 N

Durability testsContact resistance R_1 20 m Ω

Insertion/withdrawal cycles

100

Contact resistance R_2 30 m Ω

Test voltage

500 V AC

Insulation resistance
Requirements > 5 M Ω > 1 G Ω **Thermal tests**

Tested number of positions

80

Test current

3 A