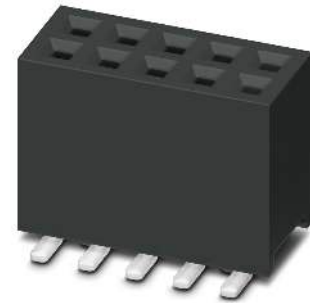


Data sheet

Order No.: 1156835

Type: FQ 1,27D/ 20-SV- 490-1-BR

SMD socket, Reflow soldering



The figure shows the 10-pos. version

1 Main features



| | | | |
|----------------|--------------|------------------------|-----------------|
| • No. of pos. | 20 | • Nominal current | 1 A |
| • Test voltage | 500 V AC | • Mounting type | SMD soldering |
| • Color | black (9005) | • Connection direction | 90 ° |
| • Pitch | 1.27 mm | • Type of packaging | 24 mm wide tape |

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



Make sure you always use the latest documentation.

It can be downloaded at: phoenixcontact.net/product/1156835

3 Table of contents

| | | |
|----|---|----|
| 1 | Main features..... | 1 |
| 2 | Your advantages | 1 |
| 3 | Table of contents | 2 |
| 4 | General Technical Data | 3 |
| 5 | Mounting..... | 4 |
| 6 | Dimensions..... | 5 |
| 7 | Series drawing..... | 6 |
| 8 | Product notes | 7 |
| 9 | Packaging information | 7 |
| 10 | Blister drawing..... | 8 |
| 11 | Application..... | 9 |
| 12 | General tests | 10 |
| 13 | Mechanical tests..... | 11 |
| 14 | Electrical tests | 12 |
| 15 | Current carrying capacity/derating curves | 13 |
| 16 | Commercial Data..... | 14 |
| 17 | Combination tests..... | 15 |

1156835 FQ 1,27D/ 20-SV- 490-1-BR**4 General Technical Data****4.1 item properties**

| | |
|--|---------------------------|
| Order No. | 1156835 |
| Type | FQ 1,27D/ 20-SV- 490-1-BR |
| Connector system | FINEPITCH FQ 1,27 |
| Product type | SMD socket |
| Type of contact | Female connector |
| Range of articles | FQ 1,27D/...-SV |
| Pitch | 1.27 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 | 90 ° |
| Pin layout | Linear pad geometry |

1156835 FQ 1,27D/ 20-SV- 490-1-BR**5 Mounting****5.1 Flange mounting**

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

5.2 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 |

1156835 FQ 1,27D/ 20-SV- 490-1-BR**6 Dimensions****6.1 Dimensions for the product**

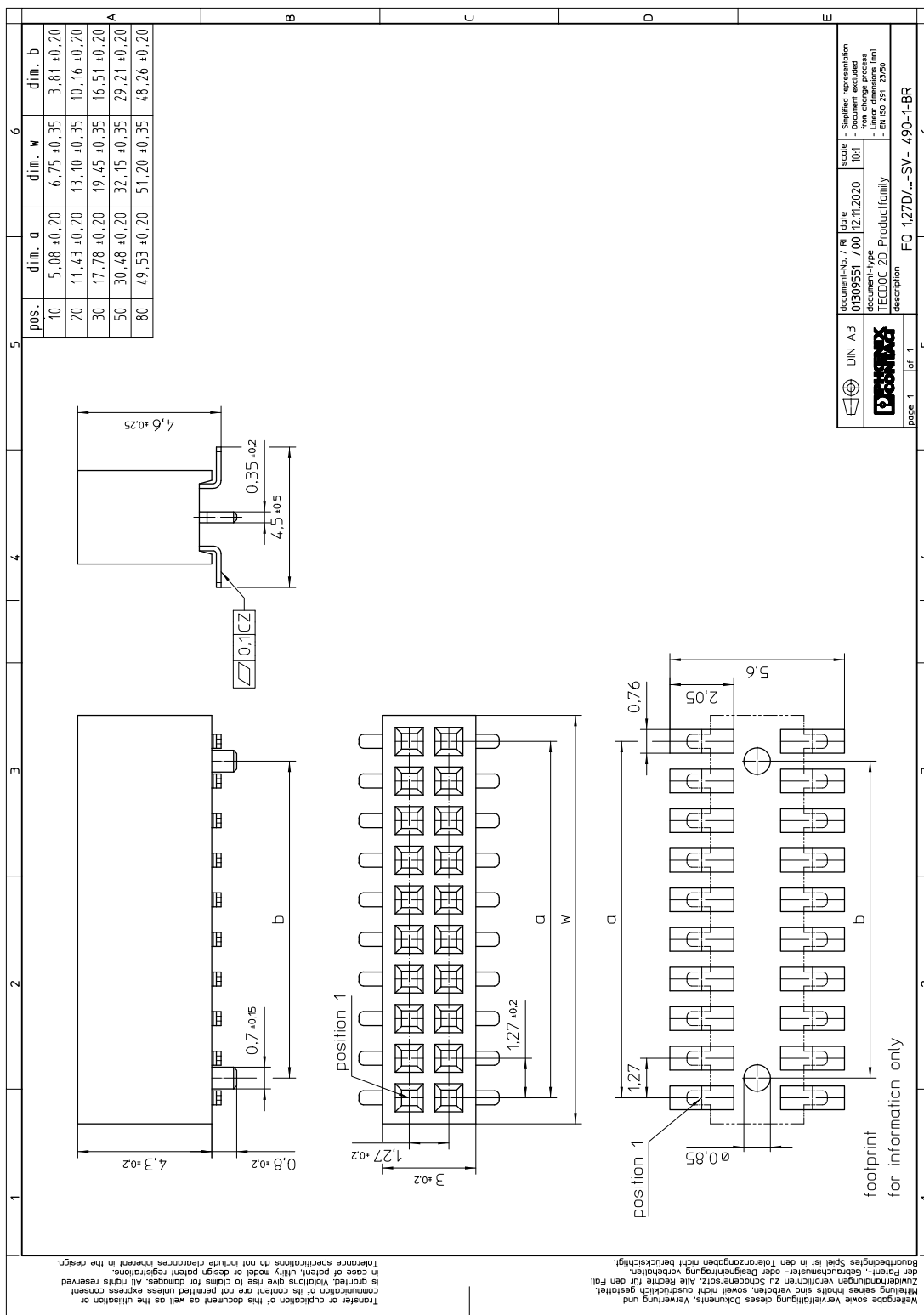
| | |
|------------------|----------|
| Length | 4.5 mm |
| Width | 13.1 mm |
| Total height | 5.1 mm |
| Installed height | 4.6 mm |
| Coplanarity | ≤ 0.1 mm |

6.2 Dimensions for the application

| | |
|-----------------|---|
| Contact cover | 0.4 mm |
| Overlap length | 1.3 mm |
| Stacking height | 6.2 mm Tolerance: +1.3 mm (in combination with Range of articles:FQ 1,27D/...-PV) |

1156835 FQ 1,27D/ 20-SV- 490-1-BR

7 Series drawing



Transfer or duplication of this document as well as the utilization or
communication of its content are not permitted unless express consent
is granted. Violations give rise to claims for damages. All rights reserved.
in case of patent, utility model or design patent registrations.
Tolerance specifications do not include clearances inherent in the design.

Weitergabe sowie Vervielfältigung dieses Dokuments, Verwertung und
Zuwendung seines Inhalts sind verboten, soweit nicht ausdrücklich gestattet.
Alle Rechte vorbehalten. Nachdruck, Vervielfältigung und Verbreitung,
auch auszugsweise, ist ohne schriftliche Genehmigung der Phoenix Contact
AG. Die Phoenix Contact AG übernimmt keine Haftung für die Richtigkeit der
Angaben. Die Angaben sind ohne Gewähr. Die Angaben sind ohne Gewähr.
Bourneberg's Spiel ist in den Toleranzangaben nicht berücksichtigt.

DIN A3
page 1 of 1

document-No. / R / title
01909551 / 700 / 12.11.2020

document-type
TECDOC 2D_Productfamily

description
FQ 1,27D/...SV- 490-1-BR

scale - Simplified representation
100%

Linear dimensions (mm)
EN ISO 297: 2950

1156835 FQ 1,27D/ 20-SV- 490-1-BR

8 Product notes

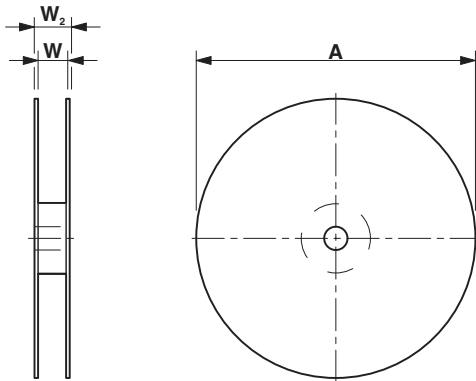
8.1 General information

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.

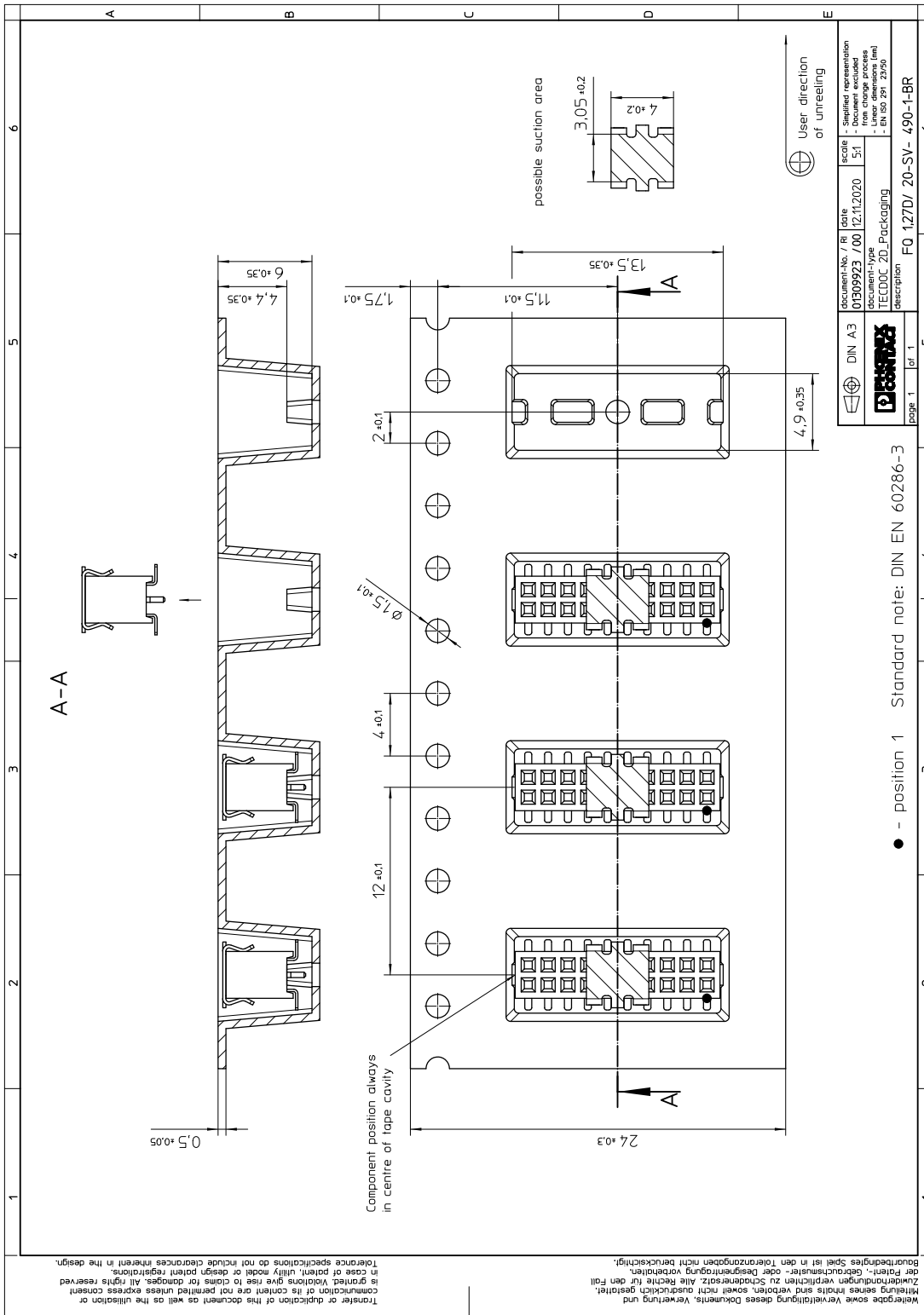
9 Packaging information

| | |
|-----------------------------|--|
| Type of packaging | 24 mm wide tape |
| Pieces per package | 900 |
| Outer packaging type | Transparent-Bag |
| ESD level | (D) electrostatically conductive |
| Specification | DIN EN 61340-5-1 (VDE 0300-5-1): 2008-07 |
| [W] tape width | 24 mm |
| [A] coil diameter | 330 mm |
| [W2] coil overall dimension | 30.4 mm |
| Number of products per coil | 900 |



1156835 FQ 1,27D/ 20-SV- 490-1-BR

10 Blister drawing



Wiedergabe sowie Vervielfältigung dieses Dokuments, Verwertung und Mitteilung seines Inhalts sind verboten, soweit nicht ausdrücklich gestattet. Zuwiderhandlungen verpflichten zu Schadenersatz. Alle Rechte für den Fall der Patent-, Gebrauchsmuster- oder Designrechte vorbehalten.
 Bauraumkennlinie spielt in den Toleranzangaben nicht berücksichtigt.
 Transfer or duplication of this document as well as the utilisation or communication of its content are not permitted unless express consent is granted. Violations give rise to claims for damages. All rights reserved in case of patent, utility model or design patent registrations. Tolerance specifications do not include clearances inherent in the design.

11 Application

11.1 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 |

12 General tests

12.1 Specification



Brief description

Board-to-board connectors

13 Mechanical tests

13.1 Insertion and withdrawal force per contact

| | |
|--|--|
| Insertion and withdrawal force per contact | $\leq 1.2 \text{ N}$ |
| Specification | IEC 60512-9-1:2010-03 (following) 100 Insertion/withdrawal cycles |

1156835 FQ 1,27D/ 20-SV- 490-1-BR**14 Electrical tests**

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

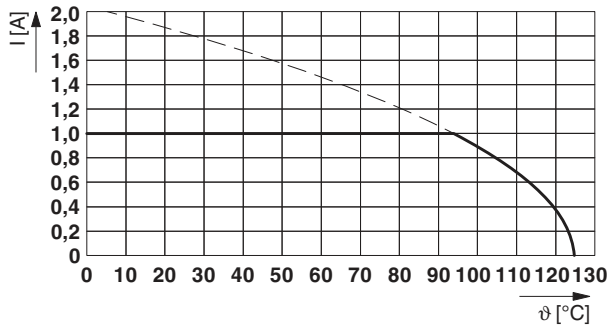
14.1 Air and creepage distances

| | |
|---|---------|
| Minimum value for clearance and creepage distance | 0.25 mm |
|---|---------|

1156835 FQ 1,27D/ 20-SV- 490-1-BR**15 Current carrying capacity/derating curves**

| | |
|------------------|----------------------------|
| Specification | IEC 60512-5-2:2002-02 |
| Note | max. 1 A at 20°C (80-pos.) |
| Reduction factor | 0.8 |

Type: FQ 1,27D/...-SV- 490-1-BR with FQ 1,27D/...-PV- 160-1-BR

**15.1 Insulation resistance**

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

15.2 forward resistance

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

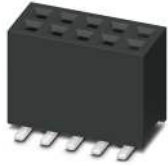
15.3 Vibration test

| | |
|------------------------|-----------------------|
| 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 | |

1156835 FQ 1,27D/ 20-SV- 490-1-BR

16 Commercial Data

| | |
|--------------------|--|
| Order No. | 1156835 |
| Type | FQ 1,27D/ 20-SV- 490-1-BR |
| Pieces per package | 900 |
| Net weight | 2.22 g |
| GTIN | 4063151160234 |
| | Information that applies locally, see link on page 1 |

1156835 FQ 1,27D/ 20-SV- 490-1-BR**17 Combination tests****FQ 1,27D/...-SV****FQ 1,27D/...-PV****Mechanical tests**

Insertion/withdrawal force per position

approx. 1.2 N / 1.2 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

1 A