

Item No.: 1332121

Type: FS 0,635/ 40-MV-R- 5,0

SMD male connector, Reflow soldering

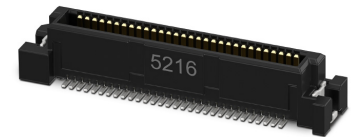


Figure shows the 60-pos. version

## 1 Main features



- |                |              |                        |                 |
|----------------|--------------|------------------------|-----------------|
| • No. of pos.  | 40           | • Nominal current      | 0.5 A           |
| • Test voltage | 500 V AC     | • Mounting type        | SMD soldering   |
| • Color        | black (9005) | • Connection direction | 90 °            |
| • Pitch        | 0.635 mm     | • Type of packaging    | 44 mm wide tape |

## 2 Your advantages

- ✓ Design-in support during device development through M-CAD/E-CAD data and a free sample service
- ✓ Cost and space savings with the comprehensive portfolio available in various stack heights
- ✓ Easy mating with integrated keyways and tolerance compensation for error-free production
- ✓ High-speed data transmission up to 20 Gbps for various possible applications
- ✓ Time savings during the development process with customer-specific simulations for data integrity
- ✓ Gold-plated contacts ensure transfer quality remains stable over the long term



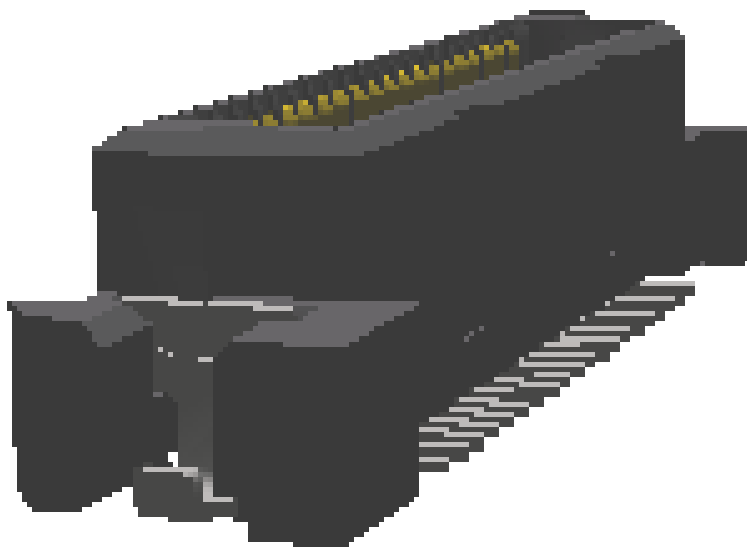
Make sure you always use the latest documentation.  
It can be downloaded at: [phoenixcontact.net/product/1332121](https://phoenixcontact.net/product/1332121)

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



**1332121 FS 0,635/ 40-MV-R- 5,0****5 General Technical Data****5.1 item properties**

|  |                        |
|--|------------------------|
| Item no.   | 1332121                |
| Type   | FS 0,635/ 40-MV-R- 5,0 |
| Connector system                                 | FINEPITCH FS 0,635     |
| Product type                                     | SMD male connector     |
| Range of articles                                | FS 0,635-MV-R- 5,0     |
| Pitch  | 0.635 mm               |
| Number of positions                              | 40                     |
| Number of rows                                   | 2                      |
| Type of locking                                  | without                |
| Mounting type                                    | SMD soldering          |
| Connection direction of the connector to the PCB | 90 °                   |
| Pin layout                                       | Linear pad geometry    |

**1332121 FS 0,635/ 40-MV-R- 5,0****6 Mounting****6.1 Flange mounting**

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

**7 Material properties****7.1 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  | Nickel (Ni) , Tin (Sn)  |
| Surface characteristics | Selective coating   |

**7.2 Material of plastic parts**

|                          |         |
|--------------------------|---------|
| Insulating material data | Housing |
| Insulating material      | LCP     |

**1332121 FS 0,635/ 40-MV-R- 5,0****8 Dimensions****8.1 Dimensions for the product**

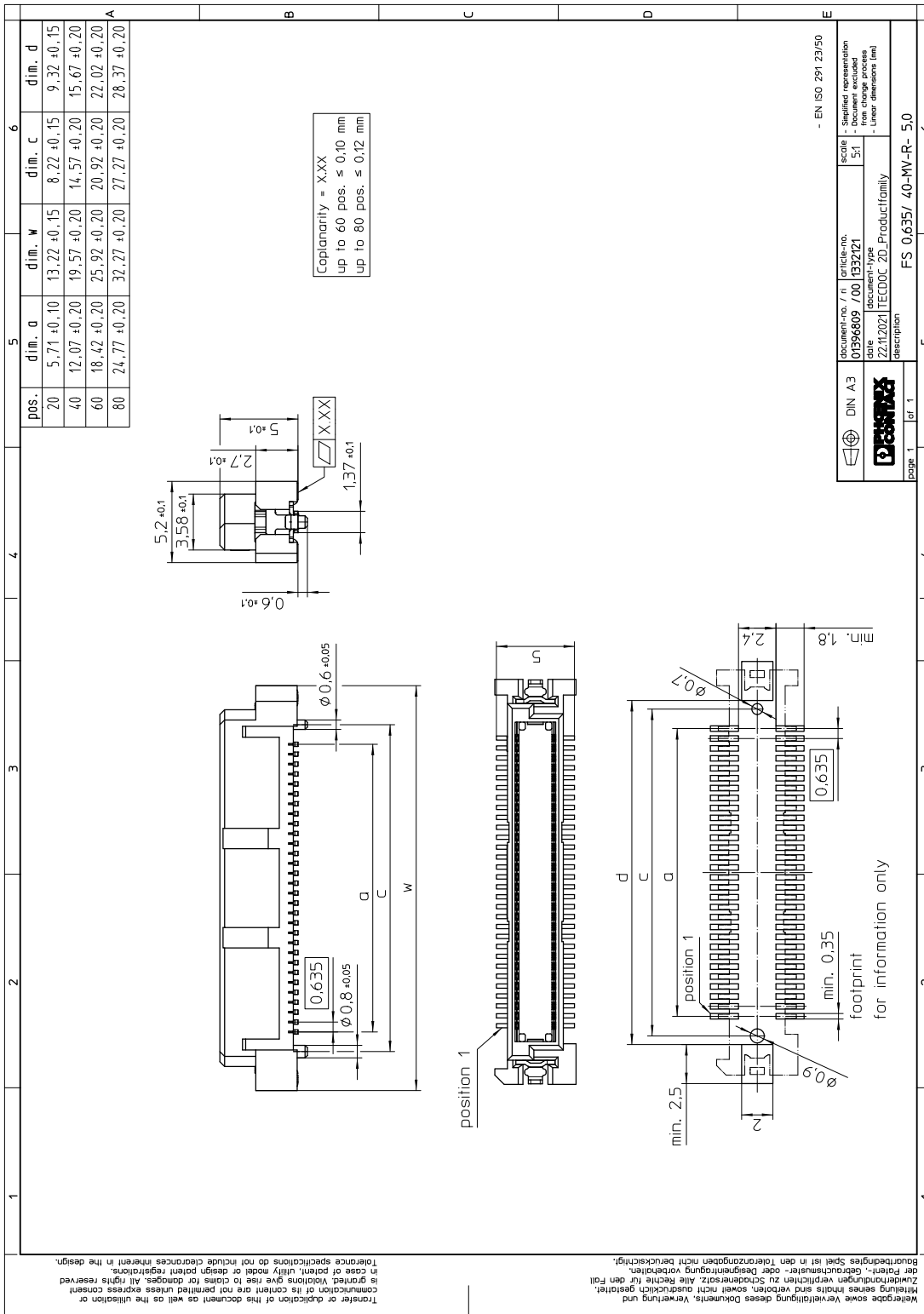
|                  |          |
|------------------|----------|
| Length           | 5.2 mm   |
| Width            | 19.57 mm |
| Total height     | 5.6 mm   |
| Installed height | 5 mm     |
| Coplanarity      | ≤ 0.1 mm |

**8.2 Dimensions for the application**

|                   |   |
|-------------------|---|
| Contact cover     | 0.6 mm  |
| Wipe length       | 0.6 mm  |
| Center offset     | ± 0.5 mm in longitudinal and transverse direction                                   |
| Angular tolerance | ± 10 ° in longitudinal and transverse direction (when plugging in)                  |
| Angular tolerance | ± 2 ° in longitudinal and transverse direction (when plugged in)                    |
| Stacking height   | 6 mm Tolerance: +0.6 mm (in combination with Range of articles:FS 0,635-FV-R-4,0)   |
| Stacking height   | 12 mm Tolerance: +0.6 mm (in combination with Range of articles:FS 0,635-FV-R-10,0) |

1332121 FS 0,635/ 40-MV-R- 5,0

9 Series drawing



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|        |                                   |                        |             |  |
|--------|-----------------------------------|------------------------|-------------|--|
| DIN A3 | document-no. / h<br>01996609 / 00 | article-no.<br>1532121 | scale<br>S1 | - Simplified representation<br>- Reduced representation<br>- Free change process<br>- Linear dimensions (mm) |
| page 1 | of 1                              | FS 0,635/ 40-MV-R- 5,0 |             |  |

## 10 Product notes

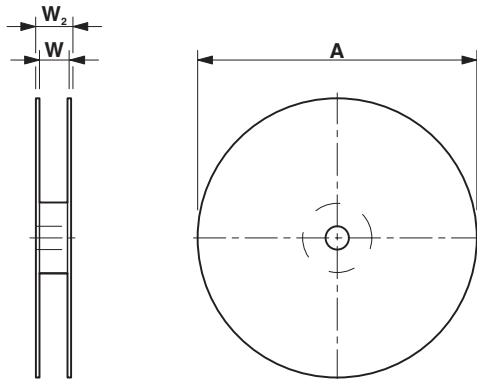
### 10.1 General information

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.

## 11 Packaging information

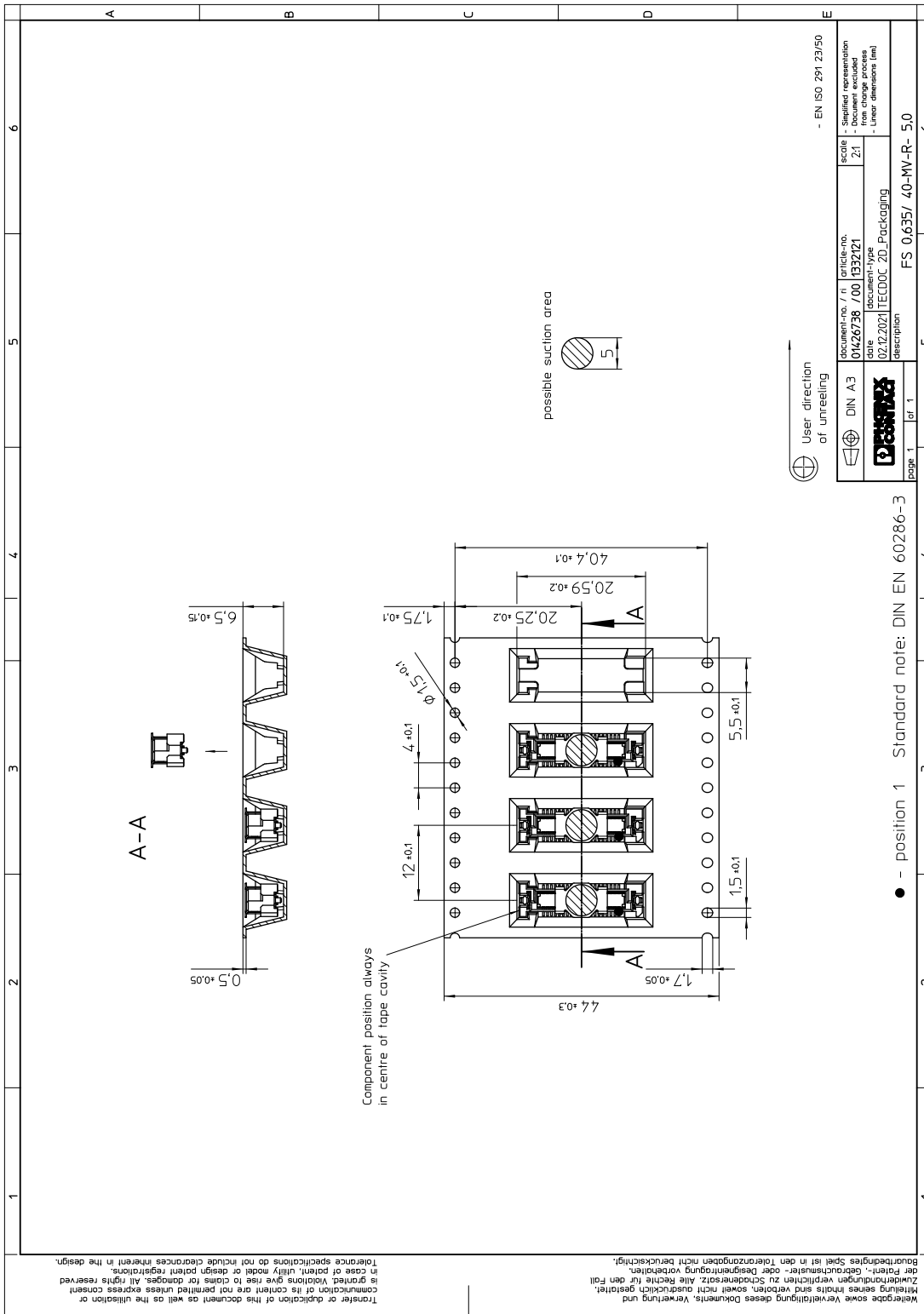
|                             |  |
|-----------------------------|--|
| Type of packaging           | 44 mm wide tape                          |
| Pieces per package          | 850                                      |
| Outer packaging type        | Transparent-Bag                          |
| ESD level                   | (D) electrostatically conductive         |
| Specification               | DIN EN 61340-5-1 (VDE 0300-5-1): 2008-07 |
| [W] tape width              | 44 mm                                    |
| [A] coil diameter           | 330 mm                                   |
| [W2] coil overall dimension | 50.4 mm                                  |
| Number of products per coil | 850                                      |





1332121 FS 0,635/ 40-MV-R- 5,0

12 Blister drawing



## 13 Application

### 13.1 PCB mounting/path geometries


|              |               |
|--------------|---------------|
| Pad geometry | 0.35 x 1.8 mm |
|--------------|---------------|

### 13.2 Temperature limit values

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

## 14 General tests

### 14.1 Specification

|  |                           |
|--|---------------------------|
|  |                           |
| Brief description  | Board-to-board connectors |

**1332121 FS 0,635/ 40-MV-R- 5,0**

## 15 Mechanical tests

### 15.1 Insertion and withdrawal force per contact

|  |                                   |
|--|-----------------------------------|
| Insertion and withdrawal force per contact |                                   |
|  | ≤ 0.6 N                           |
| Specification                              |                                   |
|  | IEC 60512-9-1:2010-03 (following) |
| No. of cycles                              |                                   |
|  | 50 Insertion/withdrawal cycles    |

**1332121 FS 0,635/ 40-MV-R- 5,0****16 Electrical tests**

|                           |   |
|---------------------------|---|
| Nominal current $I_N$     | 0.5 A IEC 60512-5-2:2002-02 (40-pos. / 60-pos.) |
| Test voltage              | 500 V AC IEC 60512-4-1:2003                     |
| Rated voltage (I/1)       | 125 V   |
| Rated surge voltage (I/1) | 0.8 kV  |

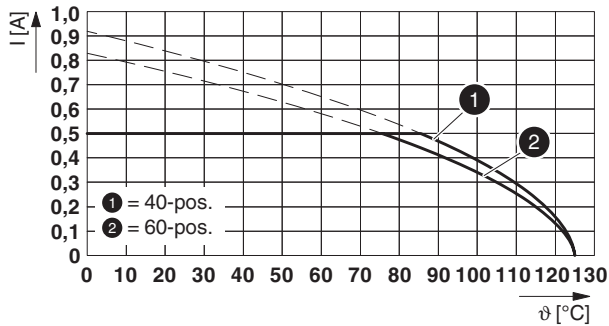
**16.1 Air and creepage distances**

|   |         |
|---|---------|
| Minimum value for clearance and creepage distance | 0.19 mm |
|---|---------|

**1332121 FS 0,635/ 40-MV-R- 5,0****17 Current carrying capacity/derating curves**

|                  |                                |
|------------------|--------------------------------|
| Specification    | IEC 60512-5-2:2002-02          |
| Note             | max. 0.5 A (40-pos. / 60-pos.) |
| Reduction factor | 0.8                            |

**Type: FS 0,635/...-MV-R- 5,0 with FS 0,635/...-FV-R- 4,0**

**17.1 Insulation resistance**

|                       |                                 |
|-----------------------|---------------------------------|
| Insulation resistance | ≥ 5 GΩ, (IEC 60512-3-1:2002-02) |
|-----------------------|---------------------------------|

**17.2 forward resistance**


|                    |                                 |
|--------------------|---------------------------------|
| Contact resistance | ≤40 mΩ, (IEC 60512-2-1:2002-02) |
|--------------------|---------------------------------|

**17.3 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 <sup>2</sup>  |
| Test duration per axis | 2 h                   |
| Test directions        | X-, Y- and Z-axis     |
| Note                   |                       |

## 18 Data transmission

### 18.1 Data transmission rate



|           |               |
|-----------|---------------|
| Data rate | up to 20 Gbps |
|-----------|---------------|

**1332121 FS 0,635/ 40-MV-R- 5,0****19 Commercial Data**

|                    |  |
|--------------------|--|
| Item no.           | 1332121  |
| Type               | FS 0,635/ 40-MV-R- 5,0                               |
| Pieces per package | 850  |
| Net weight         | 1.15 g   |
| GTIN               | 4063151629557  |
|                    | Information that applies locally, see link on page 1 |



## 20 Combination tests



### FS 0,635-MV-R- 5,0

|  |                     |  |  |  |
|--|---------------------|--|--|--|
| Mechanical tests                                     |                     |  |  |  |
| Durability tests                                     |                     |  |  |  |
| Contact resistance $R_1$                             | 40 m $\Omega$       |  |  |  |
| Insertion/withdrawal cycles                          | 50                  |  |  |  |
| Contact resistance $R_2$                             | 40 m $\Omega$       |  |  |  |
| Test voltage   | 500 V AC            |  |  |  |
| Insulation resistance<br>Requirements > 5 M $\Omega$ | $\geq 5$ G $\Omega$ |  |  |  |
| Thermal tests  |                     |  |  |  |
| Tested number of positions                           | 60                  |  |  |  |
| Test current   | 0.5 A               |  |  |  |