

# FS 0,635/ 20-MV-R- 5,0 - SMD male connectors

1332120

<https://www.phoenixcontact.com/us/products/1332120>



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SMD male connector, nominal current: 0.5 A, Test voltage: 500 V AC, number of positions: 20, pitch: 0.635 mm, color: black, contact surface: Gold, contact connection type: Pin, mounting: SMD soldering



## 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
- Time savings during the development process with customer-specific simulations for data integrity
- High-speed data transmission up to 30 Gbps for various possible applications

## Commercial data

Item number	1332120
Packing unit	850 pc
Minimum order quantity	850 pc
Sales key	AA23
Product key	AAWGCA
GTIN	4063151629229
Weight per piece (including packing)	0.91 g
Weight per piece (excluding packing)	0.91 g
Customs tariff number	85366930
Country of origin	CN

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## Technical data

### Product properties

Product type	SMD male connector
Product family	FS 0,635/..-MV-R- 5,0
Number of positions	20
Pitch	0.635 mm
Number of rows	2
Pin layout	Linear pad geometry

### Electrical properties

Nominal current $I_N$	0.5 A IEC 60512-5-2:2002-02 (40-pos. / 60-pos.)
Degree of pollution	3
Contact resistance	40 mΩ
Test voltage	500 V AC IEC 60512-4-1:2003
Rated voltage (I/1)	125 V
Rated surge voltage (I/1)	0.8 kV

### 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
Solder cycles in the reflow	3

### Material specifications

#### 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)
Metal surface soldering area (middle layer)	Nickel (Ni)

#### Material data - housing

Color (Housing)	black (9005)
Insulating material	LCP

### Notes

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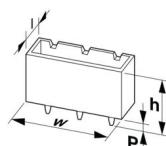


## Notes on operation

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.

## Dimensions

### Dimensional drawing



Pitch

0.635 mm

Width [w]

13.22 mm

Height [h]

5.6 mm

Length [l]

5.2 mm

Installed height

5 mm

## Application

Contact cover

0.6 mm

Center offset

± 0.5 mm in longitudinal and transverse direction

Stack height

6 mm Tolerance: +0.6 mm (in combination with Range of articles:FS 0,635/..-FV-R- 4,0)

12 mm Tolerance: +0.6 mm (in combination with Range of articles:FS 0,635/..-FV-R-10,0)

Wipe length

0.6 mm

Angular tolerance

± 10 ° in longitudinal and transverse direction (when plugging in)

± 2 ° in longitudinal and transverse direction (when plugged in)

## PCB design

Pad geometry

0.35 x 1.8 mm

Hole diameter

0.9 mm

## Electrical tests

### Thermal test | Test group C

Specification

IEC 60512-5-2:2002-02

Tested number of positions

60

### Insulation resistance

Specification

IEC 60512-3-1:2002-02

Insulation resistance, neighboring positions

≥ 5 GΩ

### Air clearances and creepage distances |

Specification

IEC 60664-1:2007-04

Minimum value for clearance and creepage distance

0.19 mm

## Environmental and real-life conditions

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## 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

## Durability test

Specification	IEC 60512-9-1:2010-03 (following)
Contact resistance $R_1$	40 m $\Omega$
Contact resistance $R_2$	40 m $\Omega$
Insertion/withdrawal cycles	50
Insulation resistance, neighboring positions	$\geq 5$ G $\Omega$

## Climatic test

Specification	IEC 60068-2-60:2015-06
Corrosive stress	Method 4, 10 days
Thermal stress	125 °C/168 h
Power-frequency withstand voltage	500 V

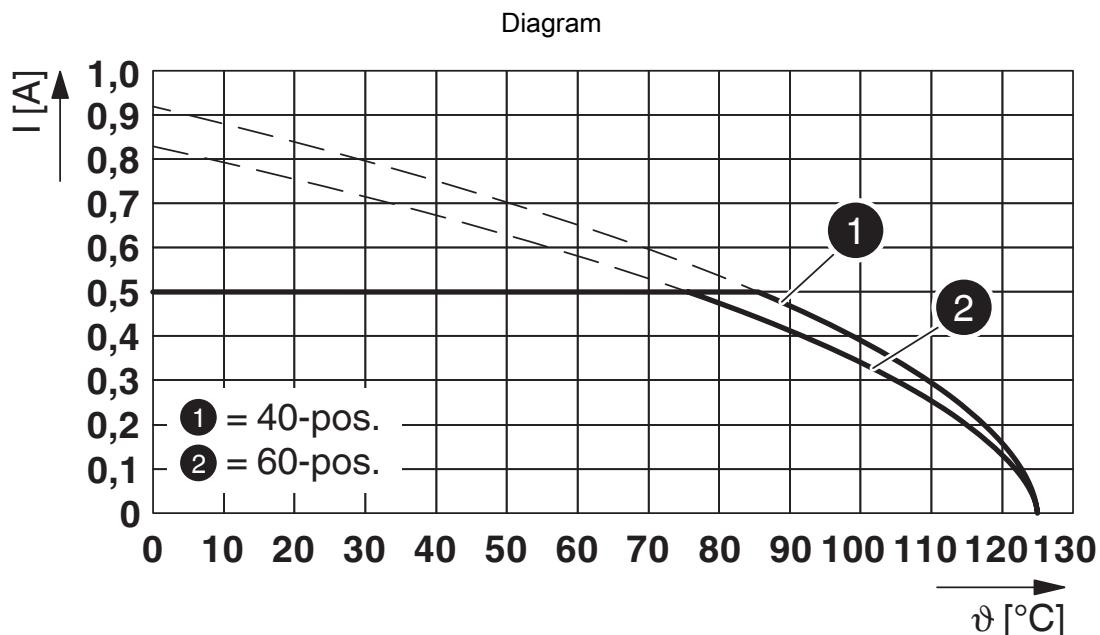
## Ambient conditions

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

## Packaging specifications

Dimensional drawing	
Type of packaging	32 mm wide tape
[W] tape width	32 mm
[W2] coil overall dimension	38.4 mm
[A] coil diameter	330 mm
Outer packaging type	Transparent-Bag
ESD level	(D) electrostatically conductive
Specification	DIN EN 61340-5-1 (VDE 0300-5-1): 2008-07

## Drawings



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

# FS 0,635/ 20-MV-R- 5,0 - SMD male connectors

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## Approvals

ⓘ To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1332120>

cULus Recognized				
Approval ID: E118976-20230512				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
	29.9 V	0.5 A	-	-

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## Classifications

### ECLASS

ECLASS-11.0	27460201
ECLASS-12.0	27460201
ECLASS-13.0	27460201

### ETIM

ETIM 9.0	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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## Mandatory accessories

### FS 0,635/ 20-FV-R- 4,0 - SMD female connectors

1331962

<https://www.phoenixcontact.com/us/products/1331962>

SMD female connector, nominal current: 0.5 A, Test voltage: 500 V AC, number of positions: 20, pitch: 0.635 mm, color: black, contact surface: Gold, contact connection type: Socket, mounting: SMD soldering



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### FS 0,635/ 20-FV-R-10,0 - SMD female connectors

1334089

<https://www.phoenixcontact.com/us/products/1334089>

SMD female connector, nominal current: 0.5 A, Test voltage: 500 V AC, number of positions: 20, pitch: 0.635 mm, color: black, contact surface: Gold, contact connection type: Socket, mounting: SMD soldering



# FS 0,635/ 20-MV-R- 5,0 - SMD male connectors



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## FS 0,635/ 20-FV-F-6,0 - SMD female connectors

1439169

<https://www.phoenixcontact.com/us/products/1439169>

SMD female connector, nominal current: 0.5 A, Test voltage: 500 V AC, number of positions: 20, pitch: 0.635 mm, color: black, contact surface: Gold, contact connection type: Socket, mounting: SMD soldering



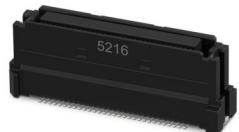
## Accessories

### FS 0,635/ 20-FV-R-10,0 - SMD female connectors

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