

# SPE-T1-M8MSM-180 - SPE PCB connector



1163793

<https://www.phoenixcontact.com/us/products/1163793>

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SPE PCB connector, SPE/IP20 straight, design: IEC 63171-5, degree of protection: IP20, number of positions: 2, 10 Gbps, CAT B (ISO/IEC 63171), material: Plastic, connection method: THR solder connection, Single Pair Ethernet

## Your advantages

- Connectors in accordance with IEC 63171-2
- THR solderable
- Data transmission up to 600 MHz
- Packaging available for automated pick and place assembly
- Reduced mounting costs thanks to two-piece device connector

## Commercial data

Item number	1163793
Packing unit	100 pc
Minimum order quantity	100 pc
Sales key	AB13
Product key	ABNBDA
GTIN	4063151176617
Weight per piece (including packing)	5.75 g
Weight per piece (excluding packing)	1.965 g
Customs tariff number	85366930
Country of origin	DE

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## Technical data

### Product properties

Product type	Data connector (device side)
Type	SPE
Sensor type	Single Pair Ethernet
Number of positions	2
Connection profile	SPE M8
Type of packaging	Tape and Reel
Number of slots	1
Shielded	yes
Thread type	M8

### Insulation characteristics

Overvoltage category	I
Degree of pollution	2

### Electrical properties

Rated voltage (III/2)	72 V DC
Rated surge voltage	2250 V DC
Rated surge voltage (III/2)	1500 V
Rated surge voltage	1000 V DC
Rated current	4 A
Frequency range	5 Hz ... 500 Hz
Insulation resistance	> 1 TΩ
Contact resistance	20 mΩ (in accordance with IEC 63171)
Transmission medium	Copper
Transmission speed	10 Gbps
Transmission characteristics (category)	CAT B (ISO/IEC 63171)
Transmission speed	1 Gbps
Power transmission	PoDL

### Output data

Transmission frequency	600.00 MHz
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### Connection data

#### Connection technology

Connection method	THR solder connection
Locking mechanism tightening torque	0.20 Nm

### Dimensions

Width	10.1 mm
Height	24 mm
Length	14.5 mm

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Installed height	21.50 mm
Orientation to PCB	180.00 °

## Material specifications

Material	LCP
Flammability rating according to UL 94	V0
Housing material	Plastic
Housing surface material	LCP
Contact material	Copper alloy
Contact surface material	Gold

## Connector

### Connection 1

Type	SPE Plug, straight, 2-position
Number of positions	2
Signal type/category	Single Pair Ethernet, 1 Gbps (in accordance with IEEE 802.3 bp)
Insertion/withdrawal cycles	> 750
Insulation resistance	> 500 MΩ
Material Housing	Metal
Material Contact	CuSn
Contact surface material	Au
Color (Housing)	nickel color
Flammability rating according to UL 94	V0
Degree of protection	IP20 IP20
Ambient temperature (operation)	-40 °C ... 85 °C

## Cable/line

Test voltage Core/Core	1000 V DC
Test voltage Core/Shield	2250.00 V DC
Halogen-free	yes
Resistance to oil	yes
Flame resistance	yes

## Mechanical properties

### Mechanical data

Insertion/withdrawal cycles	≥ 100
Insertion force per signal contact	< 30.00 N (in accordance with IEC 63171)
Extraction force per signal contact	< 30 N (in accordance with IEC 63171)
Locking mechanism tightening torque	0.20 Nm

## Environmental and real-life conditions

### Test specification

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Specification	IEC 63171
Cold stress	-40°C
Thermal stress	85°C
Corrosive stress	IEC 60512-11-7

## Test specification

Specification	IEC 60068-2-6
Frequency	5-500 Hz
Sweep speed	1 octave/min
Amplitude	0.75 mm
Acceleration	100.00 m/s <sup>2</sup>
Test duration	20.00 s

## Test specification

Specification	IEC 60068-2-27
Acceleration	500.00 m/s <sup>2</sup>
Number of shocks per direction	18.00

## Test specification

Specification	IEC 60999-1
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## Standards and regulations

Flame resistance	yes
Resistance to oil	yes

## Mounting

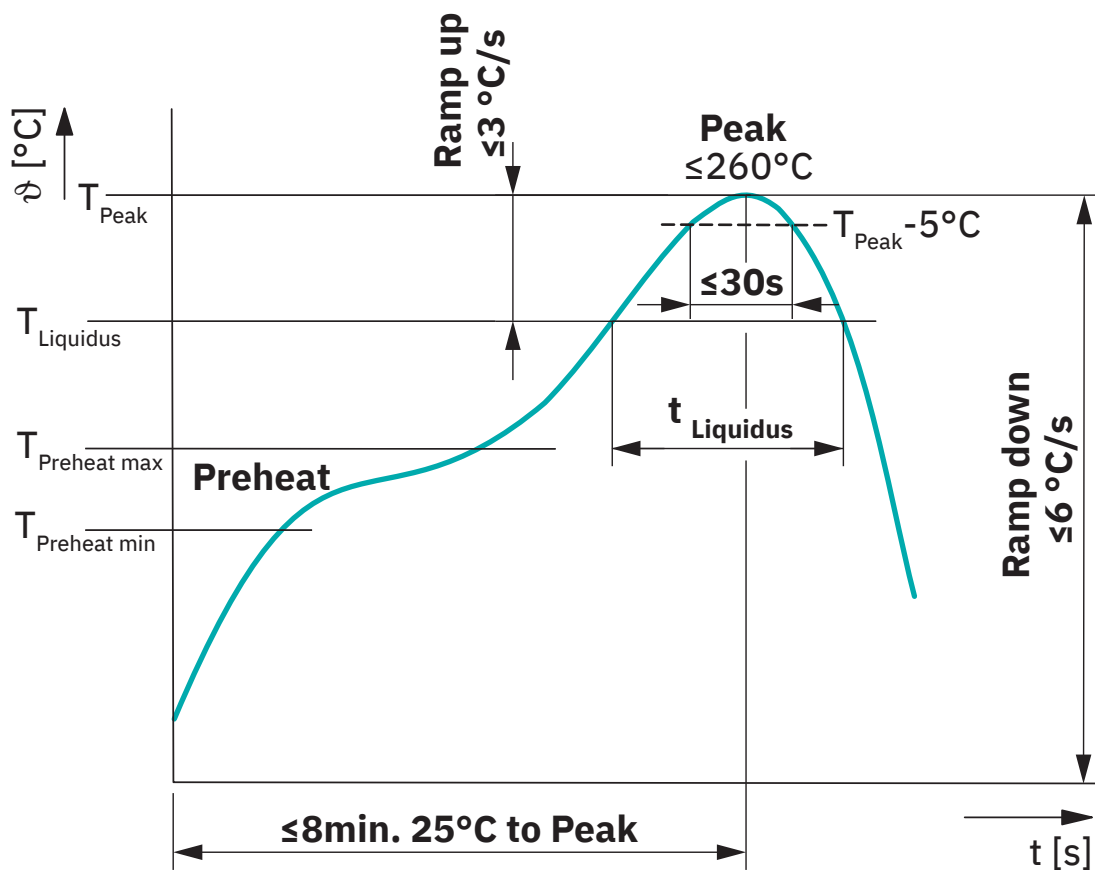
Mounting type	PCB mounting
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## Processing notes

Process	Reflow
Moisture Sensitive Level	MSL 1
Solder cycles in the reflow	3

Drawings

Diagram



Classification reflow soldering profile

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## Classifications

### ECLASS

ECLASS-13.0	27440110
ECLASS-15.0	27440110

### ETIM

ETIM 10.0	EC003568
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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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Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)