

## Printed-circuit board connector - MSTB 2,5 HC/10-ST-5,08 - 1912045

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PCB connector, nominal current: 16 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 10, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin




### Your advantages

- ✓ Well-known connection principle allows worldwide use
- ✓ Low temperature rise, thanks to maximum contact force
- ✓ Allows connection of two conductors
- ✓ Integrated double steel spring provides additional safety in the event of temperature and power fluctuations



### Key Commercial Data

Packing unit	1 pc
Minimum order quantity	50 pc
GTIN	 4 017918 191191
GTIN	4017918191191
Weight per Piece (excluding packing)	17.620 g
Custom tariff number	85366990
Country of origin	Germany

### Technical data

#### Item properties

Brief article description	Printed-circuit board connector
Plug-in system	POWER COMBICON 2,5
Type of contact	Female connector
Range of articles	MSTB 2,5 HC/..-ST
Pitch	5.08 mm

# Printed-circuit board connector - MSTB 2,5 HC/10-ST-5,08 - 1912045

## Technical data

### Item properties

Number of positions	10
Connection method	Screw connection with tension sleeve
Drive form screw head	Slotted (L)
Screw thread	M3
Locking	without
Number of levels	1
Number of connections	10
Number of potentials	10

### Electrical parameters

Nom. voltage	320 V
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### Connection capacity

Connection method	Screw connection with tension sleeve
pluggable	Yes
Conductor cross section solid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section AWG / kcmil	24 ... 12
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
2 conductors with same cross section, solid	0.2 mm <sup>2</sup> ... 1 mm <sup>2</sup>
2 conductors with same cross section, flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
2 conductors with same cross section, stranded, ferrules without plastic sleeve	0.25 mm <sup>2</sup> ... 1 mm <sup>2</sup>
2 conductors with same cross section, stranded, with TWIN ferrules with plastic sleeve	0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Stripping length	7 mm
Torque	0.5 Nm ... 0.6 Nm

### 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	hot-dip tin-plated
Metal surface terminal point (top layer)	Tin (4 - 8 μm Sn)
Metal surface contact area (top layer)	Tin (4 - 8 μm Sn)

### Material data - housing

Insulating material	PA
Insulating material group	I

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## Technical data

### Material data - housing

CTI according to IEC 60112	600
Flammability rating according to UL 94	V0
Glow wire flammability index GWFI according to EN 60695-2-12	850
Glow wire ignition temperature GWIT according to EN 60695-2-13	775
Temperature for the ball pressure test according to EN 60695-10-2	125 °C

### Dimensions for the product

Length [ l ]	18.2 mm
Width [ w ]	50.8 mm
Height [ h ]	15 mm
Pitch	5.08 mm
Height (without solder pin)	15 mm
Dimension a	45.72 mm

### Packaging information

Type of packaging	packed in cardboard
Pieces per package	50
Denomination packing units	Pcs.

### General product information

Note	In accordance with IEC 61984, COMBICON connectors have no switching power (COC). During designated use, they must not be plugged in or disconnected when carrying voltage or under load.
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### Ambient conditions

Ambient temperature (storage/transport)	-40 °C ... 70 °C
Ambient temperature (assembly)	-5 °C ... 100 °C
Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the derating curve)

### Termination and connection method

Test for conductor damage and slackening	IEC 60999-1:1999-11
	Test passed

### Pull-out test

Pull-out test	IEC 60999-1:1999-11
	Test passed
Conductor cross section / conductor type / tensile force	0.14 mm <sup>2</sup> / solid / > 10 N
	0.14 mm <sup>2</sup> / flexible / > 10 N
	2.5 mm <sup>2</sup> / solid / > 50 N
	2.5 mm <sup>2</sup> / flexible / > 50 N

### Mechanical tests according to standard

## Printed-circuit board connector - MSTB 2,5 HC/10-ST-5,08 - 1912045

### Technical data

#### Mechanical tests according to standard

Visual examination	Test passed IEC 60512-1-1:2002-02
Dimensional test	Test passed IEC 60512-1-2:2002-02
Resistance of marking	Test passed IEC 60068-2-70:1995-12
Result	Test passed
Specification	IEC 60512-13-2:2006-02
No. of cycles	25
Insertion strength per pos. approx.	8 N
Withdraw strength per pos. approx.	6 N
Polarization and coding	Test passed IEC 60512-13-5:2006-02
Result	Test passed
Specification	IEC 60512-15-1:2008-05
Test force per pos.	20 N

#### Air clearances and creepage distances

Clearances and creepage distances	IEC 60664-1:2007-04
Specification	IEC 60664-1:2007-04
Rated insulation voltage (III/3)	250 V
Rated insulation voltage (III/2)	320 V
Rated insulation voltage (II/2)	630 V
Rated surge voltage (III/3)	4 kV
Rated surge voltage (III/2)	4 kV
Rated surge voltage (II/2)	4 kV
Minimum clearance - inhomogeneous field (III/3)	3 mm
Minimum clearance - inhomogeneous field (III/2)	3 mm
Minimum clearance - inhomogeneous field (II/2)	3 mm
Minimum creepage distance value (III/3)	3.2 mm
Minimum creepage distance value (III/2)	3 mm
Minimum creepage distance value (II/2)	3.2 mm

#### Current carrying capacity / derating curves

##### Mechanical tests (A)

Insertion strength per pos. approx.	8 N
Withdraw strength per pos. approx.	6 N
Polarization when inserted requirement >20 N	Test passed
Contact holder in insert requirements >20 N	Test passed

##### Durability tests (B)

Specification	IEC 60512-9-1:2010-03
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### Technical data

#### Durability tests (B)

Contact resistance R <sub>1</sub>	1 mΩ
Insertion/withdrawal cycles	25
Contact resistance R <sub>2</sub>	1.2 mΩ
Impulse withstand voltage at sea level	4.8 kV
Power-frequency withstand voltage	2.21 kV
Insulation resistance, neighboring positions	> 0.9 TΩ

#### Climatic tests (D)

Specification	ISO 6988:1985-02
Cold stress	-40 °C/2 h
Thermal stress	100 °C/168 h
Corrosive stress	0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle
Impulse withstand voltage at sea level	4.8 kV
Power-frequency withstand voltage	2.21 kV

#### Environmental and durability tests (E)

Specification	IEC 61984:2008-10
Result, degree of protection, IP code	Finger safety with IP20 test finger

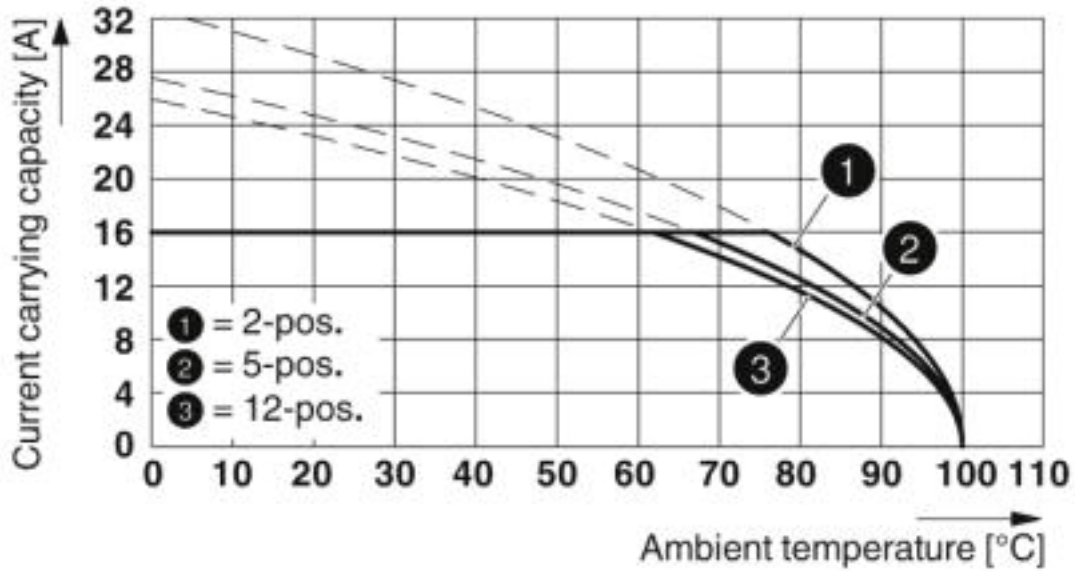
#### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

### Drawings

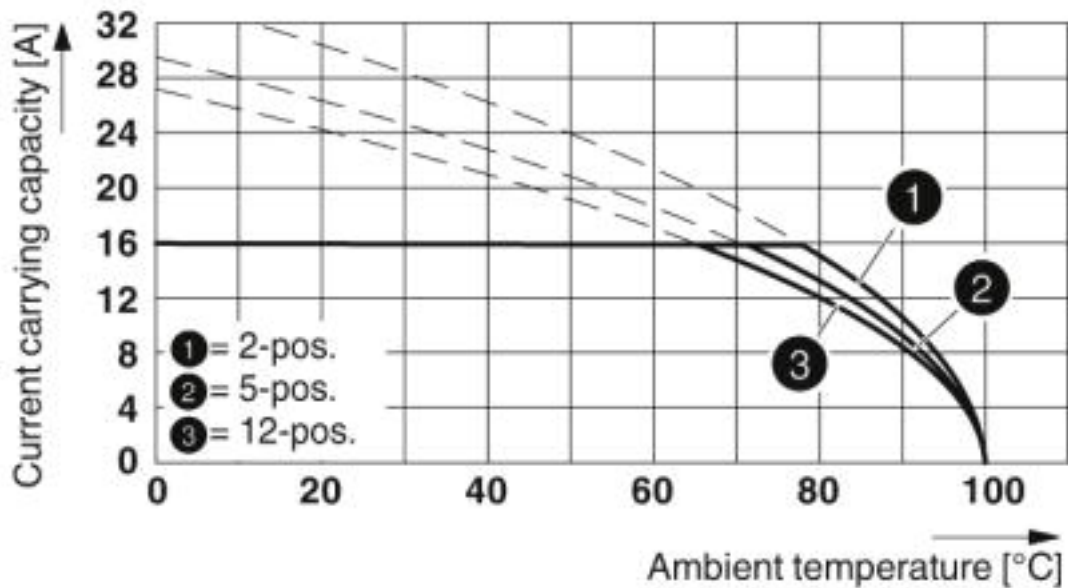
# Printed-circuit board connector - MSTB 2,5 HC/10-ST-5,08 - 1912045

Diagram



Derating curve for: MSTB 2,5 HC/...-ST with MSTBA 2,5 HC/...-G

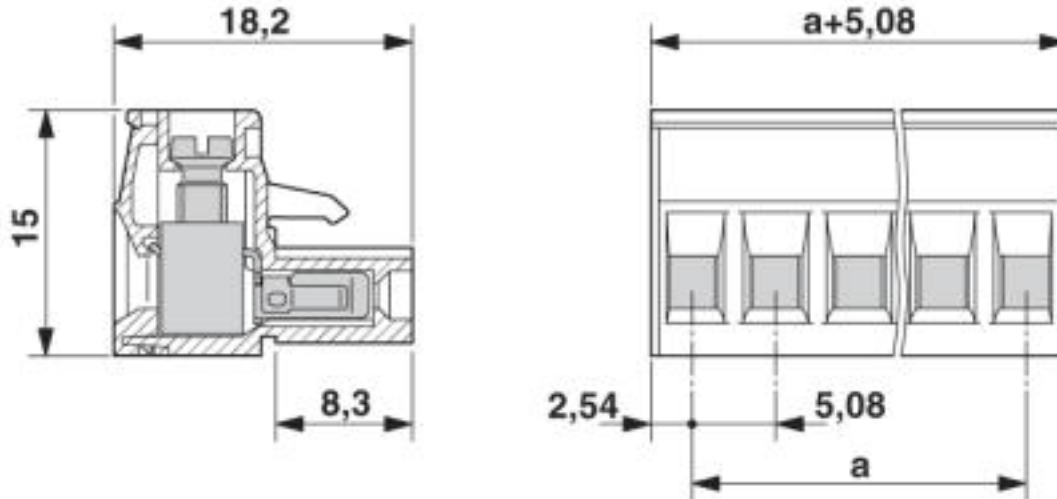
Diagram



Derating curve for: MSTB 2,5 HC/...-ST with MSTBVA 2,5 HC/...-G

# Printed-circuit board connector - MSTB 2,5 HC/10-ST-5,08 - 1912045

Dimensional drawing



## Classifications

### eCl@ss

eCl@ss 4.0	27260700
eCl@ss 4.1	27260700
eCl@ss 5.0	27260700
eCl@ss 5.1	27260700
eCl@ss 6.0	27260700
eCl@ss 7.0	27440309
eCl@ss 8.0	27440309
eCl@ss 9.0	27440309

### ETIM

ETIM 3.0	EC001121
ETIM 4.0	EC002638
ETIM 5.0	EC002638
ETIM 6.0	EC002638
ETIM 7.0	EC002638

### UNSPSC

UNSPSC 6.01	30211810
UNSPSC 7.0901	39121409
UNSPSC 11	39121409
UNSPSC 12.01	39121409
UNSPSC 13.2	39121409

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## Classifications

### UNSPSC

UNSPSC 18.0	39121409
UNSPSC 19.0	39121409
UNSPSC 20.0	39121409
UNSPSC 21.0	39121409

## Approvals


### Approvals


#### Approvals


IECEE CB Scheme / EAC / cULus Recognized / VDE Zeichengenehmigung

#### Ex Approvals

### Approval details

IECEE CB Scheme		<a href="http://www.iecee.org/">http://www.iecee.org/</a>	DE1-60988-B1B2
Nominal voltage UN	250 V		
Nominal current IN	16 A		
mm <sup>2</sup> /AWG/kcmil	0.2-2.5		


EAC		B.01742
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cULus Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	E60425-19931011
	B	D	
Nominal voltage UN	300 V	300 V	
Nominal current IN	16 A	10 A	
mm <sup>2</sup> /AWG/kcmil	30-12	30-12	



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## Approvals

VDE Zeichengenehmigung		<a href="http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx">http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx</a>	40050079
Nominal voltage UN	250 V		
Nominal current IN	16 A		
mm <sup>2</sup> /AWG/kcmil	0.2-2.5		

## Accessories

### Accessories

#### Coding element

Coding profile - CP-MSTB - 1734634

Coding profile, is inserted into the slot on the plug or inverted header, red insulating material



### Labeled terminal marker

Marker card - SK 5,08/3,8:FORTL.ZAHLEN - 0804293

Marker card, Card, white, labeled, Horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... (99)100, mounting type: adhesive, for terminal block width: 5.08 mm, lettering field size: 5.08 x 3.8 mm



Marker card - SK 3,8 REEL P5,08 WH CUS - 0825125

Marker card, Card, can be ordered: By card, white, labeled according to customer specifications, mounting type: adhesive, for terminal block width: 5.08 mm, lettering field size: continuous x 3.8 mm



## Screwdriver tools

## Printed-circuit board connector - MSTB 2,5 HC/10-ST-5,08 - 1912045

### Accessories

Screwdriver - SZS 0,6X3,5 - 1205053



Actuation tool, for ST terminal blocks, insulated, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

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### Terminal marking

Marker card - SK U/3,8 WH:UNBEDRUCKT - 0803906



Marker card, Sheet, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, Office printing systems, mounting type: adhesive, for terminal block width: 210 mm, lettering field size: 186 x 3.8 mm, Number of individual labels: 1440

Marker strip - SK 3,8 WH:REEL - 0805218



Marker strip, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: adhesive, for terminal block width: 90000 mm, lettering field size: continuous x 3.8 mm, Number of individual labels: 210000

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### Additional products

Feed-through header - MSTBA 2,5 HC/10-G-5,08 - 1923940



PCB headers, nominal current: 16 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 10, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm

Feed-through header - MSTBVA 2,5 HC/10-G-5,08 - 1924389



PCB headers, nominal current: 16 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 10, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm

## Printed-circuit board connector - MSTB 2,5 HC/10-ST-5,08 - 1912045

### Accessories

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