

# Printed-circuit board connector - MSTBT 2,5/ 4-ST GY BDWH:9-12 - 1715576

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PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 4, pitch: 5 mm, connection method: Screw connection with tension sleeve, color: gray, contact surface: Tin, pin layout: Linear pinning




The figure shows a 10-position version of the product

## Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Allows connection of two conductors



## Key Commercial Data

Packing unit	50 pc
GTIN	 4 055626 445885
GTIN	4055626445885

## Technical data

### Item properties

Brief article description	Printed-circuit board connector
Plug-in system	CLASSIC COMBICON
Type of contact	Female connector
Range of articles	MSTBT 2,5/...-ST
Pitch	5 mm
Number of positions	4
Connection method	Screw connection with tension sleeve
Screw thread	M3
Pin layout	Linear pinning
Number of levels	1
Number of connections	4

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## Technical data

### Item properties

Number of potentials	4
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### Electrical parameters

Nominal current	12 A
Nom. voltage	320 V
Rated voltage	250 V
Rated voltage (III/2)	320 V
Rated 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

### 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, flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 1 mm <sup>2</sup>
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Cylindrical gauge a x b / diameter	2.8 mm x 2.0 mm / 2.4 mm
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 (5 - 7 µm Sn)
Metal surface contact area (top layer)	Tin (5 - 7 µm Sn)

### Material data - housing

Housing color	gray (7042)
Insulating material	PA
Insulating material group	I
CTI according to IEC 60112	600

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### Material data - housing

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 ]	18.1 mm
Width [ w ]	20 mm
Pitch	5 mm
Height (without solder pin)	15 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	0.2 mm <sup>2</sup> / solid / > 10 N
	0.2 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

Test specification	IEC 61984
Visual inspection	IEC 60512-1-1:2002-02
Dimension check	IEC 60512-1-2:2002-02
Resistance of inscriptions	IEC 60068-2-70:1995-12
Insertion and withdrawal force	IEC 60512-13-2:2006-02

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## Technical data

### Mechanical tests according to standard

No. of cycles	25
Insertion strength per pos. approx.	8 N
Withdraw strength per pos. approx.	6 N
Polarization and coding	IEC 60512-13-5:2006-02
Contact holder in insert	IEC 60512-15-1:2008-05
Test force per pos.	36 N

### Air clearances and creepage distances

Clearances and creepage distances	IEC 60664-1:2007-04
Specification	IEC 60664-1:2007-04
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
Note on connection cross section	With connected conductor 2,5 mm <sup>2</sup> .

### Current carrying capacity / derating curves

Caption	Type: MSTBT 2,5/...-ST with MSTBA 2,5/...-G
Specification	IEC 61984:2008-10
Reduction factor	0.8
Note	Representation based on IEC 60512-5-2:2002-02
	For number of positions, see diagram

### Mechanical tests (A)

Test specification	IEC 61984
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
Contact resistance R <sub>1</sub>	1.2 mΩ
Insertion/withdrawal cycles	25
Contact resistance R <sub>2</sub>	1.3 mΩ
Impulse withstand voltage at sea level	4.8 kV
Power-frequency withstand voltage	2.21 kV
Insulation resistance, neighboring positions	> 0,4 TΩ

### Thermal tests (C)

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## Technical data

### Thermal tests (C)

Specification	IEC 60512-5-1:2002-02
Number of positions	18
Conductor cross section	2.5 mm <sup>2</sup>
Test current	12 A
Upper limiting temperature requirements <100 °C	Test passed

### 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

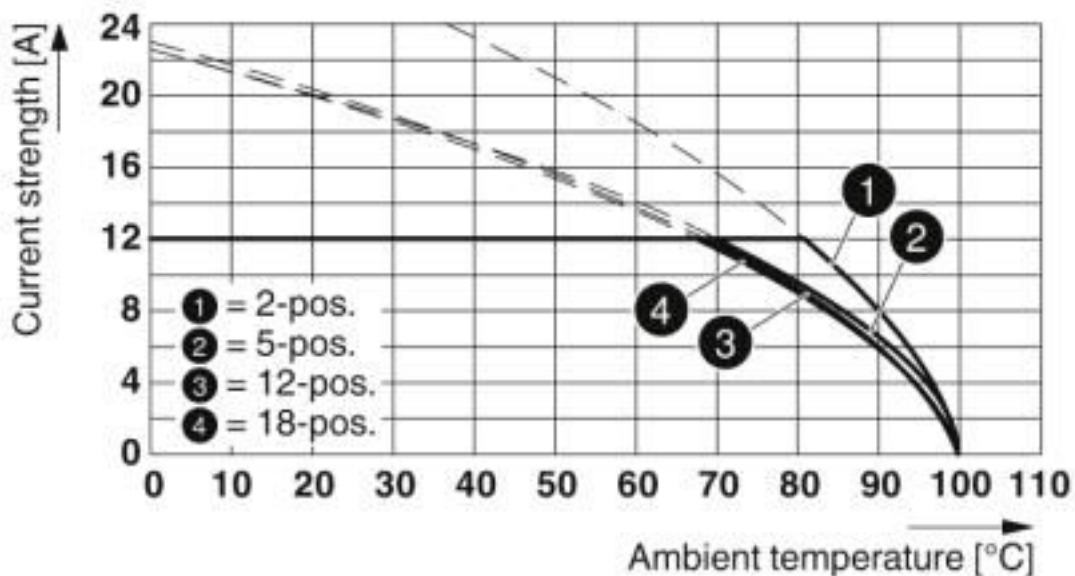
### Environmental Product Compliance

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

## Drawings

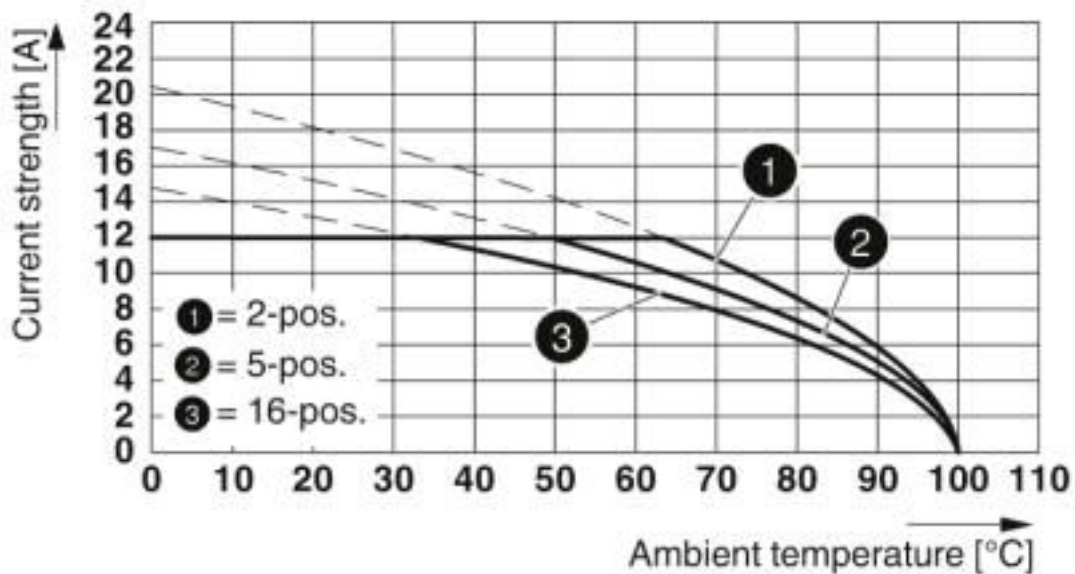
# Printed-circuit board connector - MSTBT 2,5/ 4-ST GY BDWH:9-12 - 1715576

Diagram



Type: MSTBT 2,5/...-ST with MSTBA 2,5/...-G

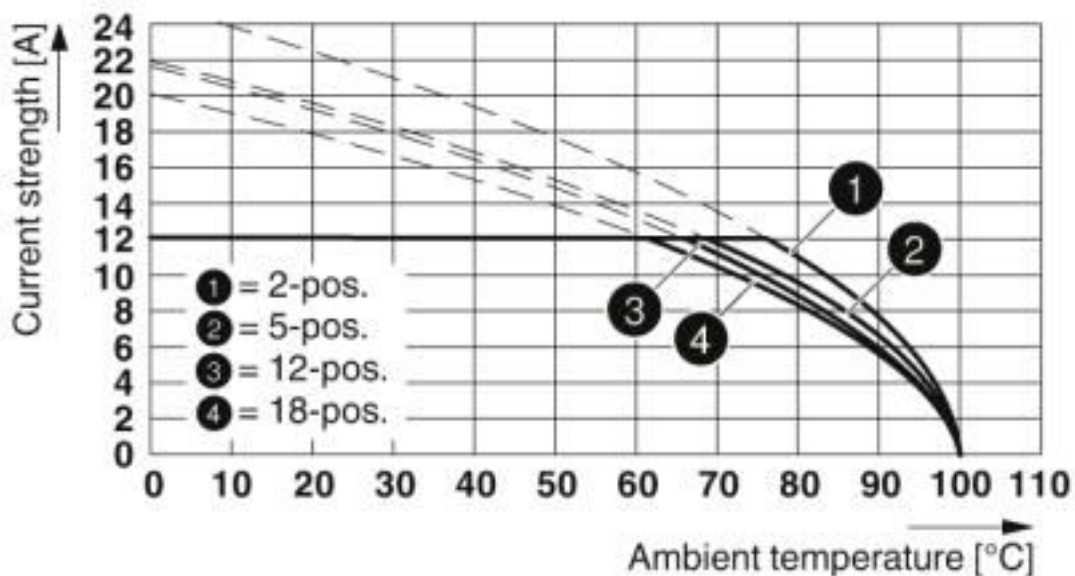
Diagram



Type: MSTBT 2,5/...-ST with MSTBVA 2,5/...-G

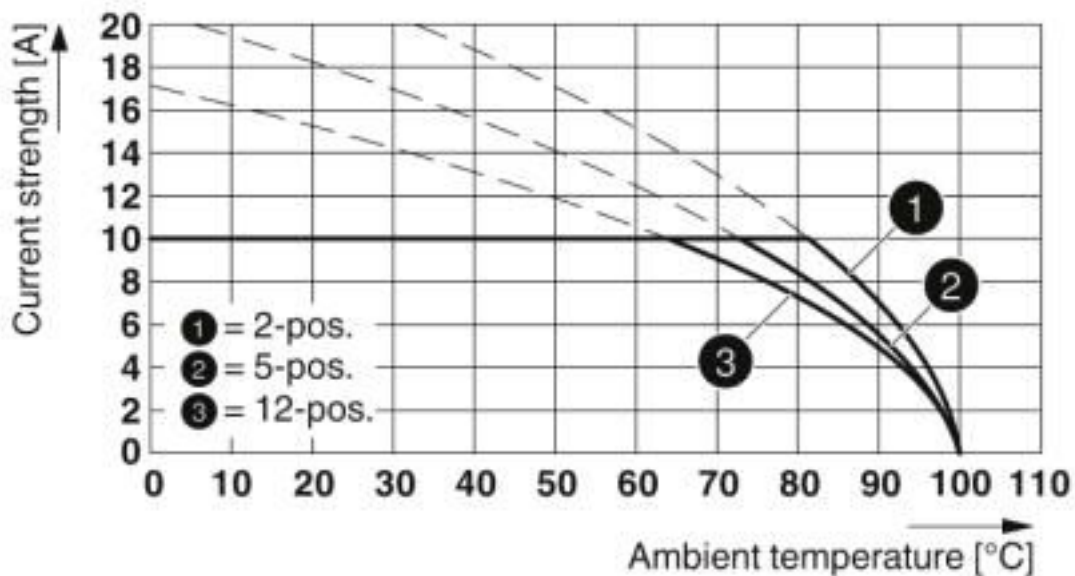
# Printed-circuit board connector - MSTBT 2,5/ 4-ST GY BDWH:9-12 - 1715576

Diagram



Type: MSTBT 2,5/...-ST with MSTBW 2,5/...-G

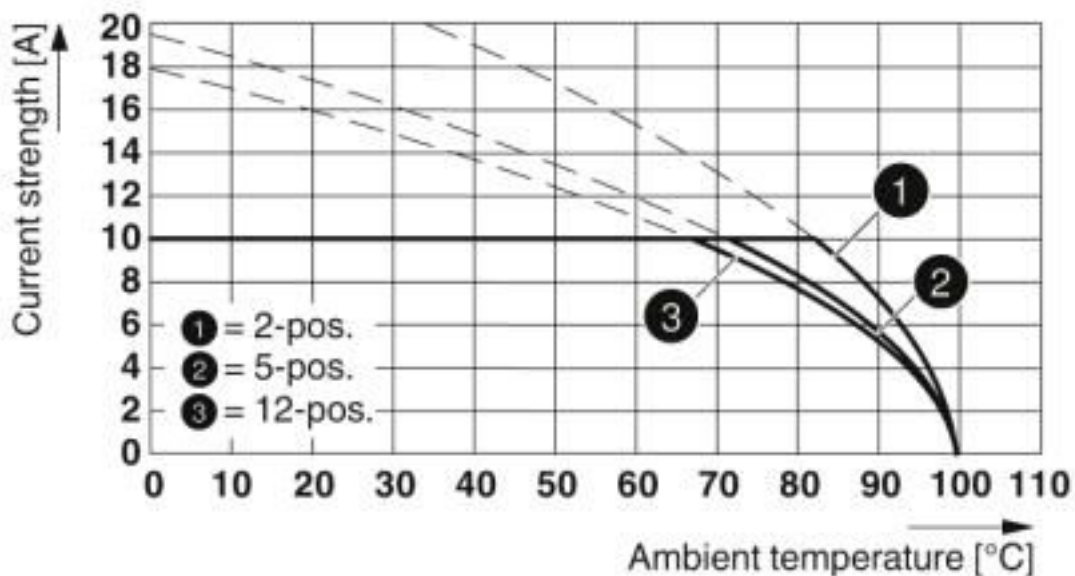
Diagram



Type: MSTBT 2,5/...-ST with MDSTB 2,5/...-G

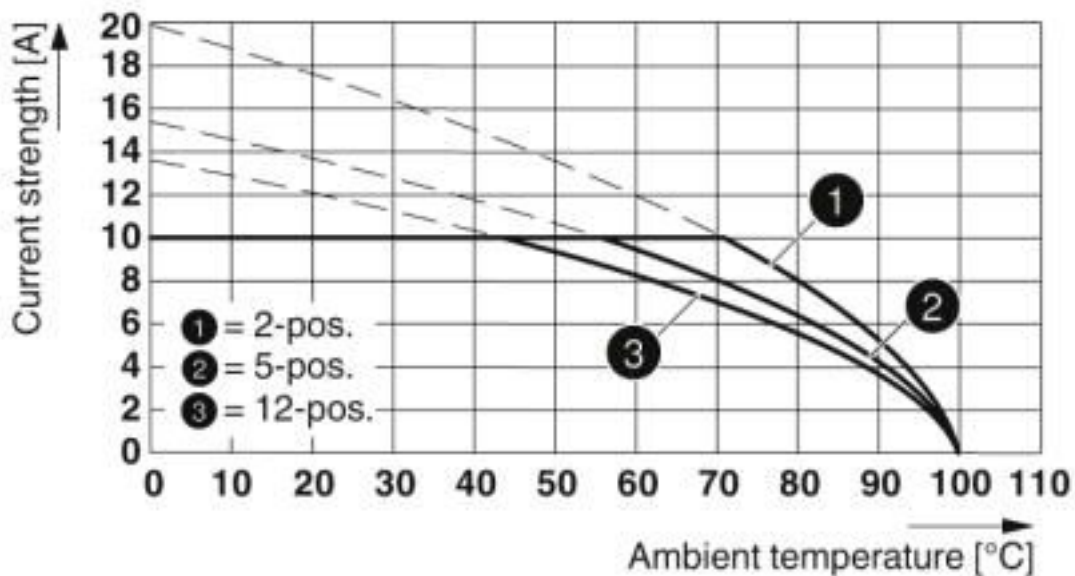
# Printed-circuit board connector - MSTBT 2,5/ 4-ST GY BDWH:9-12 - 1715576

Diagram



Type: MSTB 2,5/...-ST with MDSTBA 2,5/...-G

Diagram

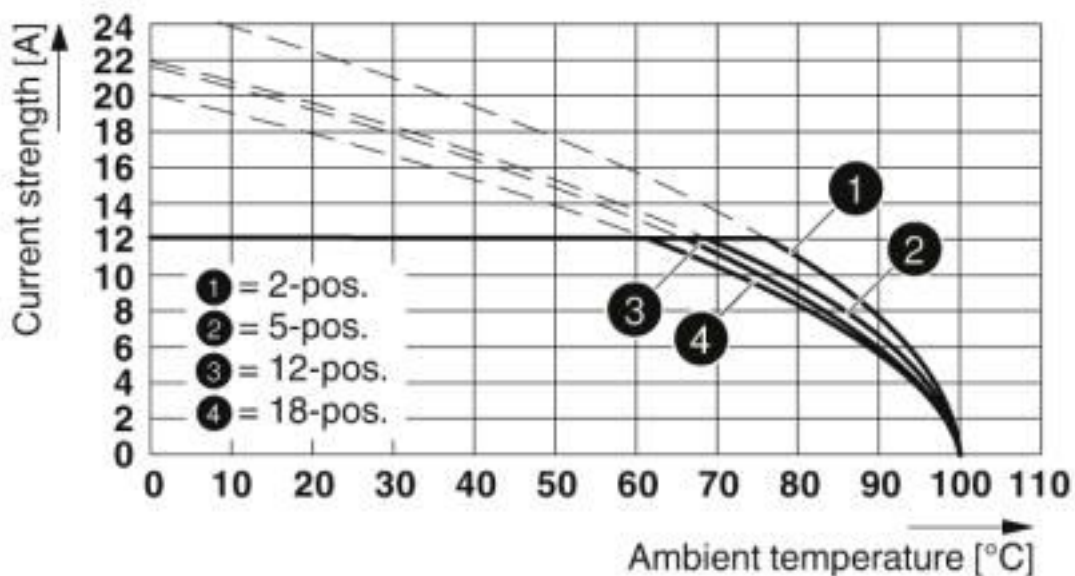


Type: MSTBT 2,5/...-ST with MDSTBV 2,5/...-G



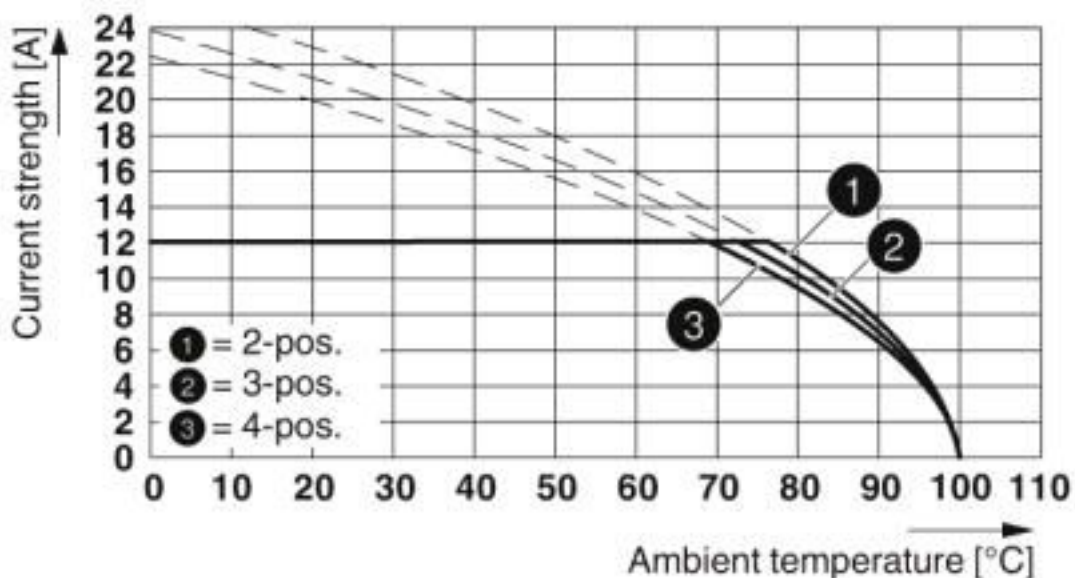
# Printed-circuit board connector - MSTBT 2,5/ 4-ST GY BDWH:9-12 - 1715576

Diagram



Type: MSTBT 2,5/...-ST with MSTBW 2,5/...-G

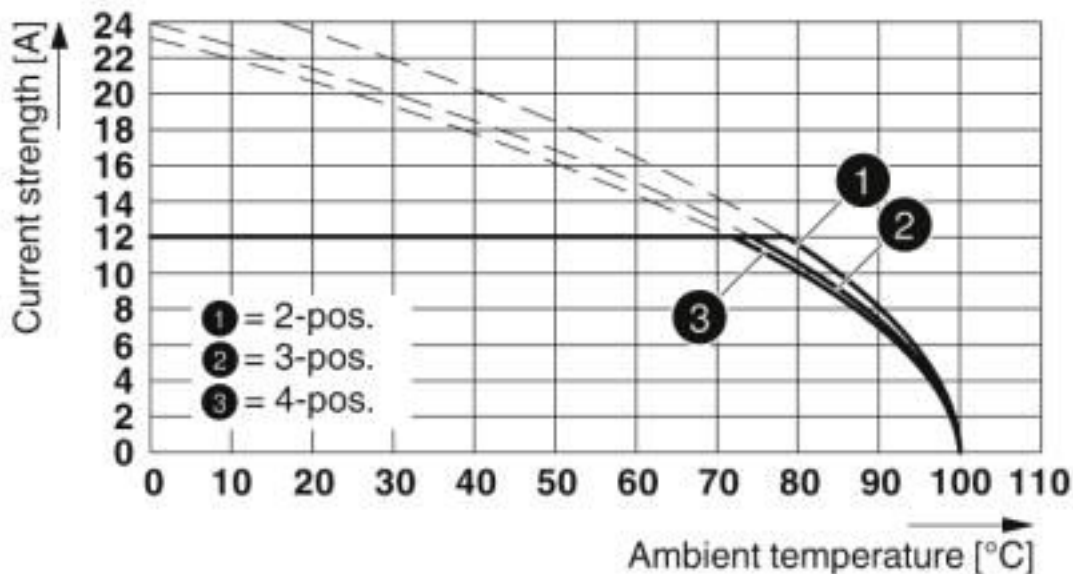
Diagram



Type: MSTBT 2,5/...-ST with MSTBO 2,5/...-G1L

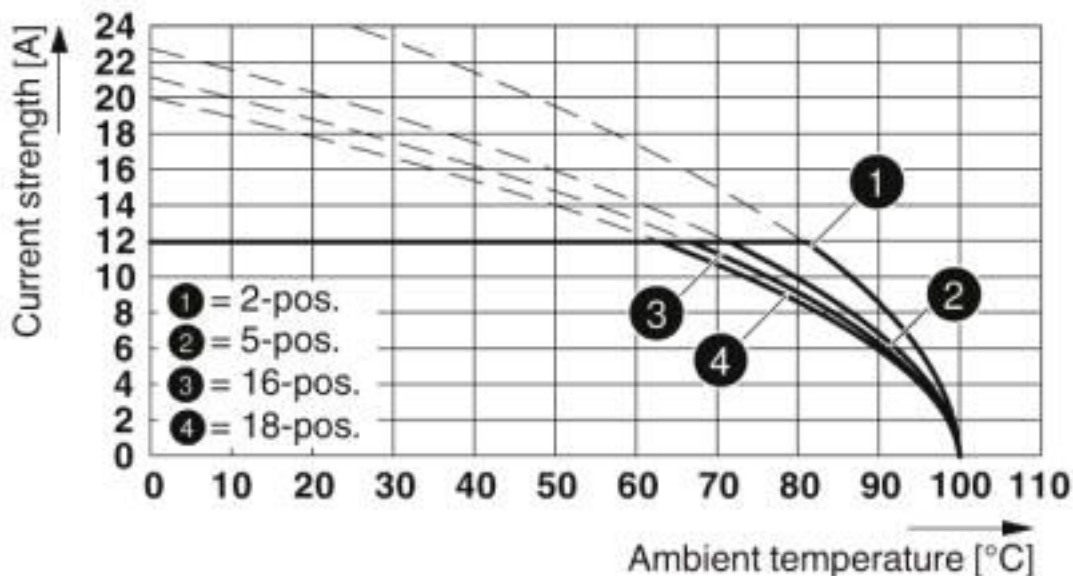
# Printed-circuit board connector - MSTBT 2,5/ 4-ST GY BDWH:9-12 - 1715576

Diagram



Type: MSTBT 2,5/...-ST with MSTBO 2,5/...-G1R

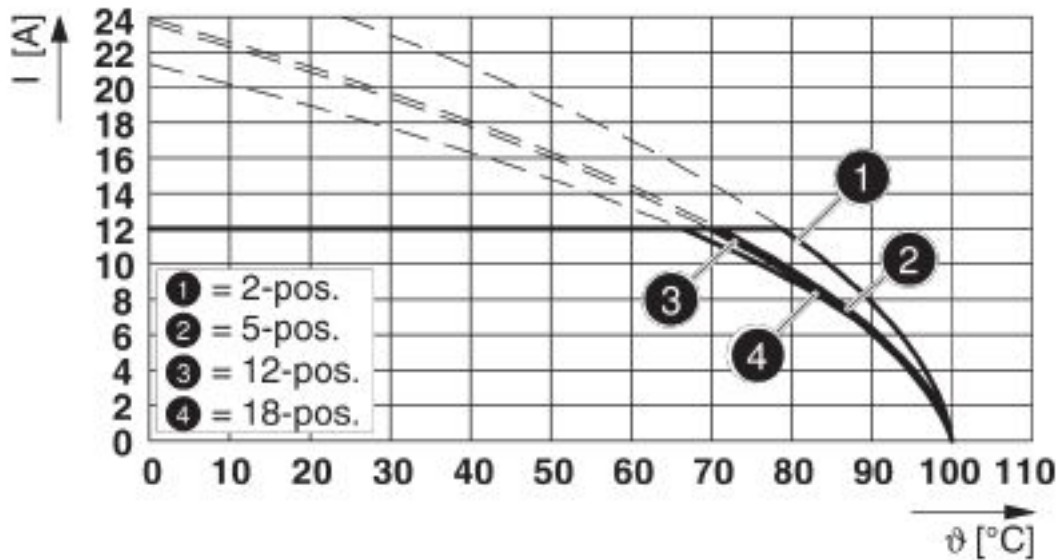
Diagram



Type: MSTBT 2,5/...-ST with SMSTBA 2,5/...-G

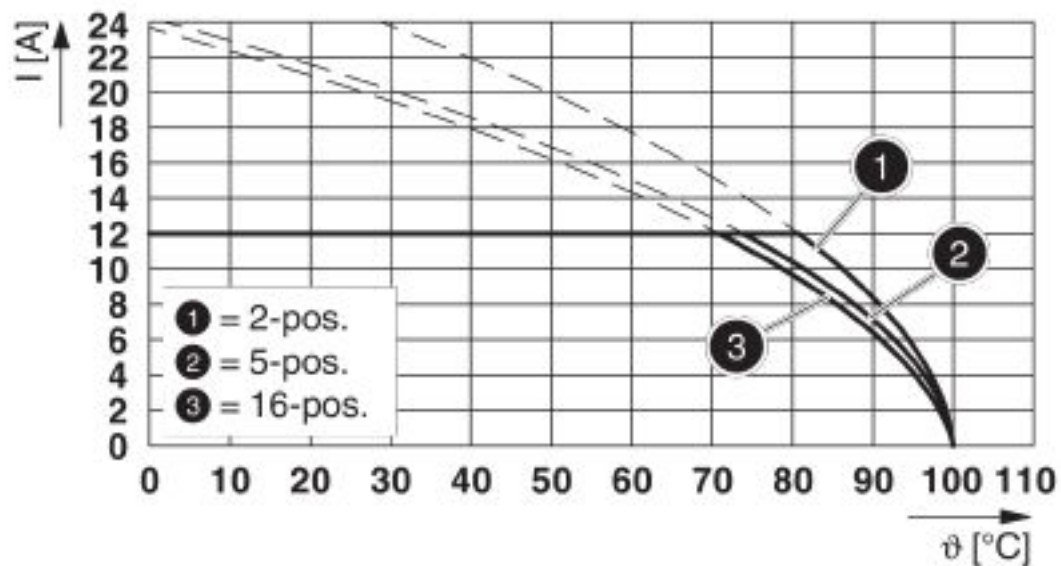
# Printed-circuit board connector - MSTBT 2,5/ 4-ST GY BDWH:9-12 - 1715576

Diagram



Type: MSTBT 2,5/...-ST with FKIC 2,5/...-ST

Diagram



Type: MSTBT 2,5/...-ST with FKICS 2,5/...-ST

## Classifications

eCl@ss

eCl@ss 10.0.1	27440309
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# Printed-circuit board connector - MSTBT 2,5/ 4-ST GY BDWH:9-12 - 1715576

## 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 5.0	EC002638
ETIM 6.0	EC002638
ETIM 7.0	EC002638

## Approvals

### Approvals

#### Approvals

CSA / EAC / cULus Recognized / IECCEB CB Scheme / VDE Zeichengenehmigung

#### Ex Approvals


### Approval details


CSA		<a href="http://www.csagroup.org/services-industries/product-listing/">http://www.csagroup.org/services-industries/product-listing/</a>	13631
	B	D	
Nominal voltage UN	300 V	300 V	
Nominal current IN	10 A	10 A	
mm <sup>2</sup> /AWG/kcmil	28-12	28-12	


EAC		B.01687
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## Approvals

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	15 A	10 A			
mm <sup>2</sup> /AWG/kcmil	30-12	30-12			

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	12 A			
mm <sup>2</sup> /AWG/kcmil	0.2-2.5			

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>	40004701
Nominal voltage UN	250 V			
Nominal current IN	12 A			
mm <sup>2</sup> /AWG/kcmil	0.2-2.5			

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