

MSTBV 2,5/21-G-5,08 - PCB header

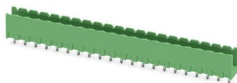


1758209

<https://www.phoenixcontact.com/in/products/1758209>

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PCB headers, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Pin, number of potentials: 21, number of rows: 1, number of positions: 21, number of connections: 21, product range: MSTBV 2,5/..-G, pitch: 5.08 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm, number of solder pins per potential: 1, plug-in system: COMBICON MSTB 2,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard



Your advantages

- Maximum flexibility when it comes to device design – one header for connectors with different connection technologies
- Well-known mounting principle allows worldwide use
- Vertical connection enables multi-row arrangement on the PCB
- Items that can be aligned in various pitches support flexible and space-saving PCB assembly
- Easy PCB replacement thanks to plug-in modules

Commercial Data

Item number	1758209
Packing unit	50 pc
Minimum order quantity	50 pc
Note	Made to Order (non-returnable)
Sales Key	AAC
Product Key	AACSMB
Catalog Page	Page 168 (CC-2005)
GTIN	4017918030414
Weight per Piece (including packing)	8.69 g
Weight per Piece (excluding packing)	7.873 g
Customs tariff number	85366930
Country of origin	IN

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Technical Data

Product properties

Type	Standard
Product line	COMBICON Connectors M
Product type	PCB headers
Product family	MSTBV 2,5/..-G
Number of positions	21
Pitch	5.08 mm
Number of connections	21
Number of rows	1
Mounting flange	without
Number of potentials	21
Pin layout	Linear pinning
Solder pins per potential	1

Electrical properties

Nominal current I_N	12 A
Nominal voltage U_N	320 V
Degree of pollution	3
Contact resistance	2.4 m Ω
Rated voltage (III/3)	250 V
Rated surge voltage (III/3)	4 kV
Rated voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
Rated voltage (II/2)	400 V
Rated surge voltage (II/2)	4 kV

Mounting

Mounting type	Wave soldering
Pin layout	Linear pinning

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	Tin-plated
Metal surface contact area (top layer)	Tin (3 - 5 μm Sn)
Metal surface contact area (middle layer)	Nickel (1.3 - 3 μm Ni)
Metal surface soldering area (top layer)	Tin (3 - 5 μm Sn)
Metal surface soldering area (middle layer)	Nickel (1.3 - 3 μm Ni)

Material data - housing

MSTBV 2,5/21-G-5,08 - PCB header

1758209

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Color (Housing)	green (6021)
Insulating material	PBT
Insulating material group	IIIa
CTI according to IEC 60112	225
Flammability rating according to UL 94	V0

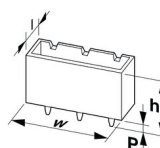
Material data – actuating element

Color ()	()
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Notes

Notes on operation	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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Dimensions

Dimensional drawing	
Pitch	5.08 mm
Width [w]	106.68 mm
Height [h]	15.9 mm
Length [l]	8.57 mm
Installed height	12 mm
Solder pin length [P]	3.9 mm

Mechanical tests

Test for conductor damage and slackening

Specification	IEC 60999-1:1999-11
Result	Test passed

Pull-out test

Specification	IEC 60999-1:1999-11
Conductor cross section/conductor type/tractive force setpoint/actual value	0.2 mm ² / solid / > 10 N
	0.2 mm ² / flexible / > 10 N
	2.5 mm ² / solid / > 50 N
	2.5 mm ² / flexible / > 50 N

Insertion and withdrawal forces

Result	Test passed
No. of cycles	25
Insertion strength per pos. approx.	8 N
Withdraw strength per pos. approx.	6 N

MSTBV 2,5/21-G-5,08 - PCB header



1758209

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Torque test

Specification	IEC 60999-1:1999-11
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Contact holder in insert

Specification	IEC 60512-15-1:2008-05
Contact holder in insert Requirements >20 N	Test passed

Resistance of inscriptions

Specification	IEC 60068-2-70:1995-12
Result	Test passed

Polarization and coding

Specification	IEC 60512-13-5:2006-02
Result	Test passed

Visual inspection

Specification	IEC 60512-1-1:2002-02
Result	Test passed

Dimension check

Specification	IEC 60512-1-2:2002-02
Result	Test passed

Electrical tests

Thermal test | Test group C

Specification	IEC 60512-5-1:2002-02
Tested number of positions	24

Insulation resistance

Specification	IEC 60512-3-1:2002-02
Insulation resistance, neighboring positions	> 5 MΩ

Air clearances and creepage distances |

Specification	IEC 60664-1:2007-04
Insulating material group	IIIa
Comparative tracking index (IEC 60112)	CTI 225
Rated insulation voltage (III/3)	250 V
Rated surge voltage (III/3)	4 kV
minimum clearance value - non-homogenous field (III/3)	3 mm
minimum creepage distance (III/3)	4 mm
Rated insulation voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
minimum clearance value - non-homogenous field (III/2)	3 mm
minimum creepage distance (III/2)	3.2 mm
Rated insulation voltage (II/2)	400 V
Rated surge voltage (II/2)	4 kV

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1758209

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minimum clearance value - non-homogenous field (II/2)	3 mm
minimum creepage distance (II/2)	4 mm

Environmental and real-life conditions

Vibration test

Specification	IEC 60068-2-6:2007-12
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 Hz ... 60.1 Hz)
Sweep speed	5g (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h

Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	4.8 kV
Contact resistance R ₁	2.4 mΩ
Contact resistance R ₂	2.5 mΩ
Insertion/withdrawal cycles	25
Insulation resistance, neighboring positions	> 5 MΩ

Climatic test

Specification	ISO 6988:1985-02
Corrosive stress	0.2 dm ³ SO ₂ on 300 dm ³ /40 °C/1 cycle
Thermal stress	100 °C/168 h
Power-frequency withstand voltage	2.21 kV

Ambient conditions

Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

Packaging specifications

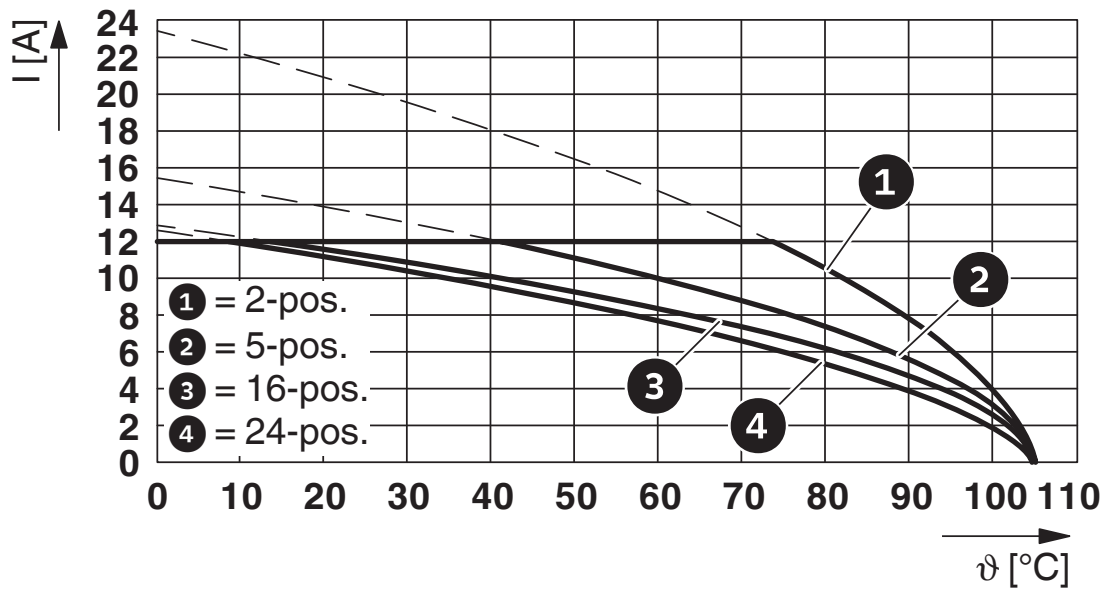
Type of packaging	packed in cardboard
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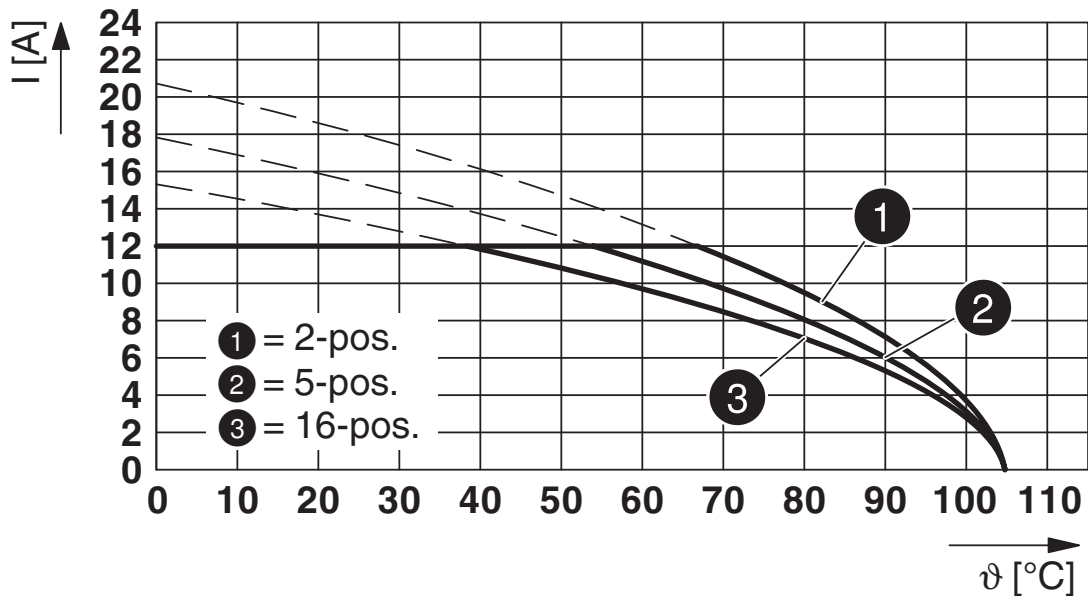
Drawings

Diagram



Type: ICV 2,5/...-G-5,08 with MSTBV 2,5/...-G-5,08

Diagram

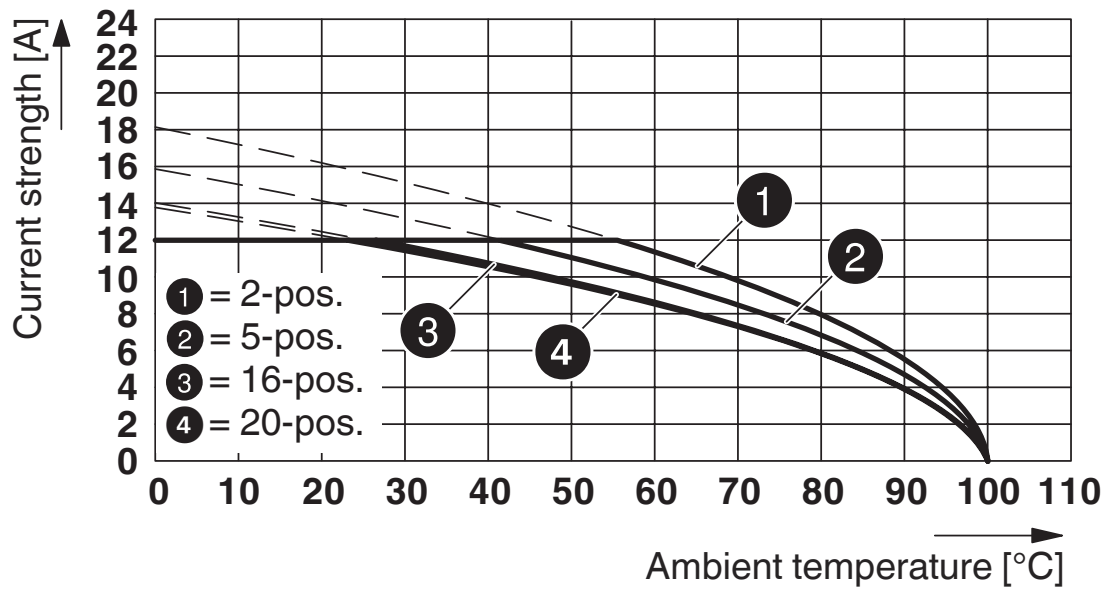


Type: FKCVR 2,5/...-ST-5,08 with MSTBV 2,5/...-G-5,08

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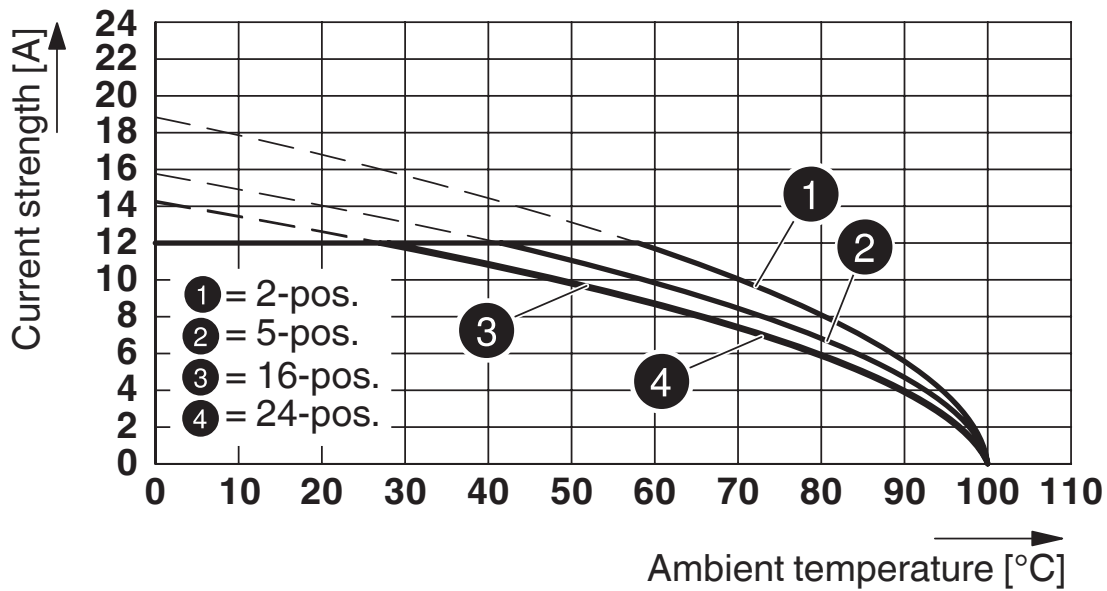
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Diagram



Type: MSTB 2,5/...-ST-5,08 with MSTBV 2,5/...-G-5,08

Diagram

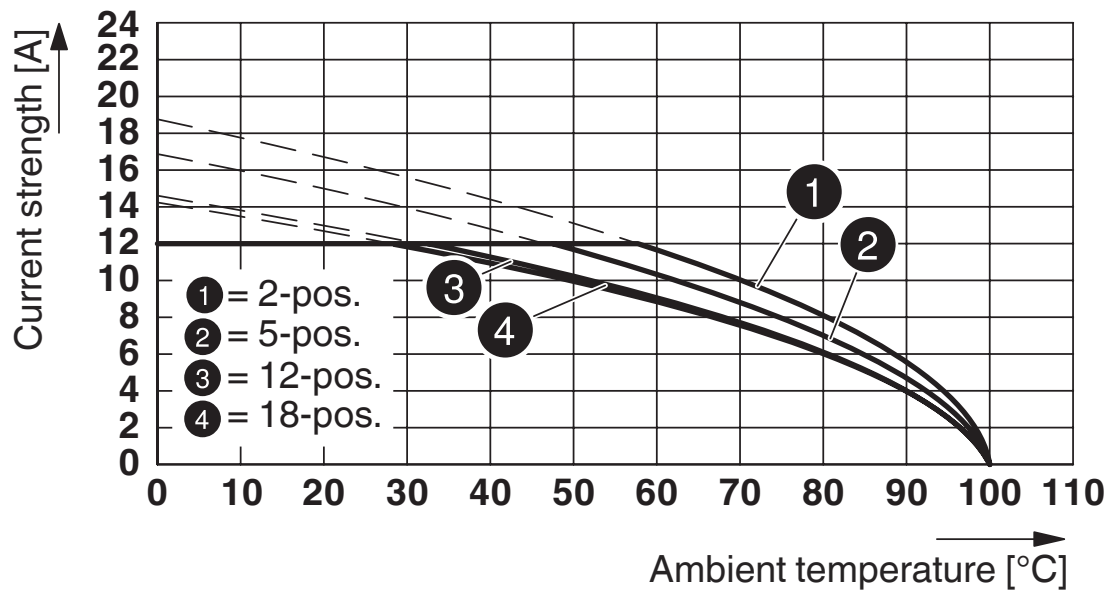


Type: MSTBP 2,5/...-ST-5,08 with MSTBV 2,5/...-G-5,08

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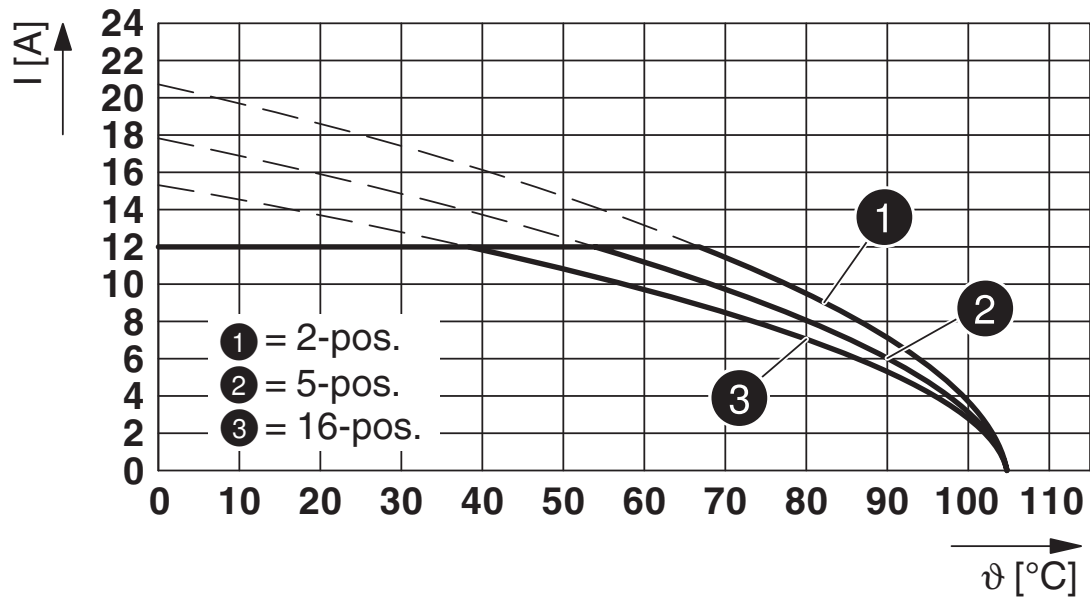
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Diagram



Type: MSTBT 2,5/...-ST-5,08 with MSTBV 2,5/...-G-5,08-5,08

Diagram



Type: FKCVW 2,5/...-ST-5,08 with MSTBV 2,5/...-G-5,08

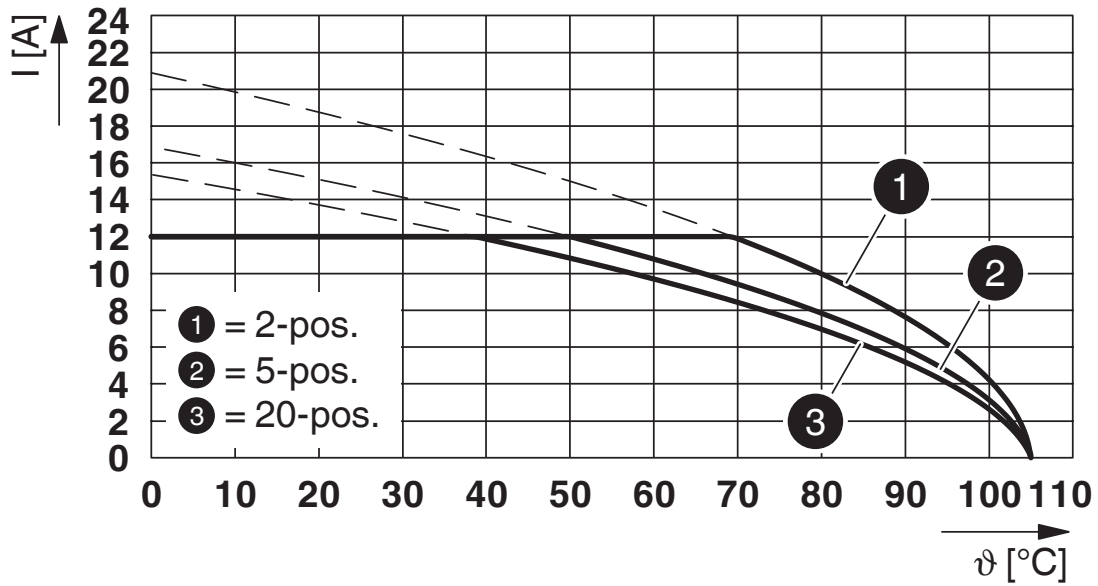
MSTBV 2,5/21-G-5,08 - PCB header



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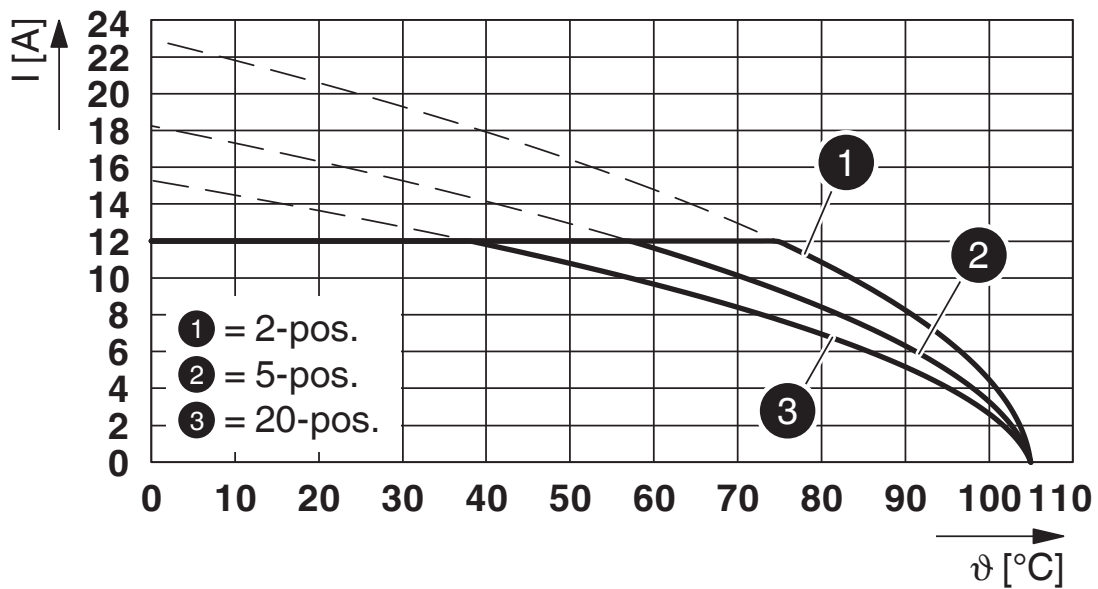
<https://www.phoenixcontact.com/in/products/1758209>

Diagram



Type: FKCT 2,5/...-ST-5,08 with MSTBV 2,5/...-G-5,08

Diagram



Type: FKCS 2,5/...-ST-5,08 with MSTBV 2,5/...-G-5,08

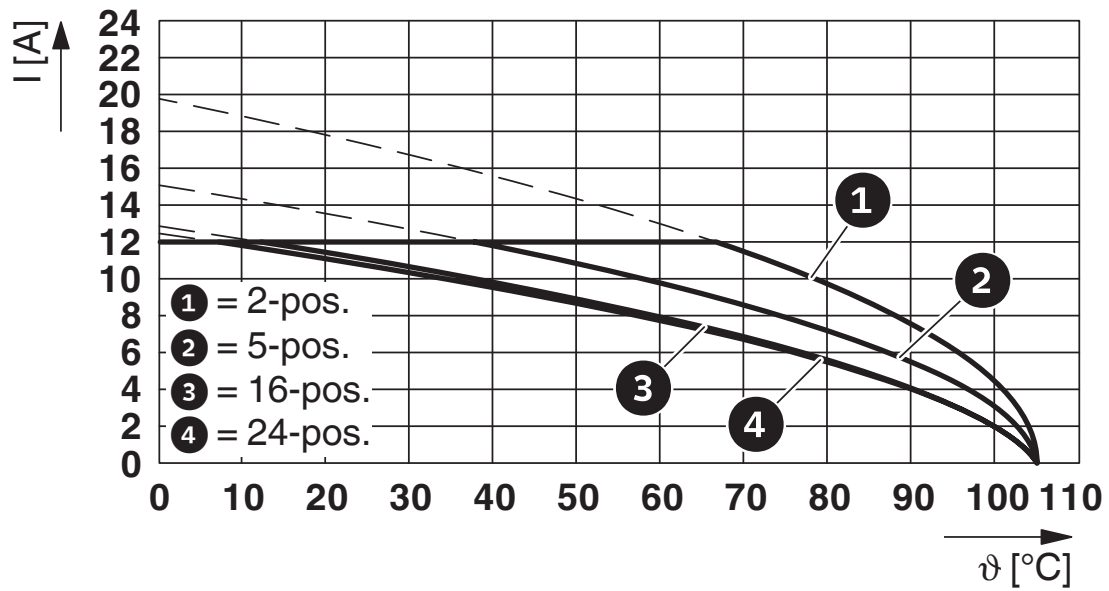
MSTBV 2,5/21-G-5,08 - PCB header



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Diagram



Type: IC 2,5/...-G-5,08 with MSTBV 2,5/...-G-5,08


MSTBV 2,5/21-G-5,08 - PCB header



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Approvals

 CSA Approval ID: 13631				
	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	300 V	12 A	-	-
	300 V	10 A	-	-

 IECEE CB Scheme Approval ID: DE1-60988-B1B2				
	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	250 V	12 A	-	-

 EAC Approval ID: B.01687				
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 cULus Recognized Approval ID: E60425-19931011				
	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	300 V	12 A	-	-
	300 V	10 A	-	-

 VDE Zeichengenehmigung Approval ID: 40050648				
	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	250 V	12 A	-	-

MSTBV 2,5/21-G-5,08 - PCB header



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Classifications

ECLASS

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

ETIM

ETIM 8.0	EC002637
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UNSPSC

UNSPSC 21.0	39121400
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MSTBV 2,5/21-G-5,08 - PCB header



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Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

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Accessories

CR-MSTB - Coding section

1734401

<https://www.phoenixcontact.com/in/products/1734401>

Coding section, inserted into the recess in the header or the inverted plug, red insulating material



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

0804293

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Marker 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



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MSTB-BL - Accessories

1755477

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Keying cap, for forming sections, plugs onto header pin, green insulating material

SK 5,08/3,8:UNBEDRUCKT - Marker card

0805412

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Marker card, white, unlabeled, can be labeled with: Marker pen, mounting type: adhesive, for terminal block width: 5.08 mm, lettering field size: 5.08 x 3.8 mm

MSTBV 2,5/21-G-5,08 - PCB header

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MSTB 2,5/21-ST-5,08 - PCB connector

1757200

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PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Socket, number of potentials: 21, number of rows: 1, number of positions: 21, number of connections: 21, product range: MSTB 2,5/...-ST, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 0 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard

MSTBP 2,5/21-ST-5,08 - PCB connector

1769201

<https://www.phoenixcontact.com/in/products/1769201>



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Socket, number of potentials: 21, number of rows: 1, number of positions: 21, number of connections: 21, product range: MSTBP 2,5/...-ST, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 0 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard

MSTBV 2,5/21-G-5,08 - PCB header

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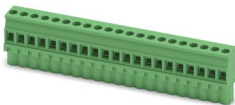
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MVSTBW 2,5/21-ST-5,08 - PCB connector

1792948

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PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Socket, number of potentials: 21, number of rows: 1, number of positions: 21, number of connections: 21, product range: MVSTBW 2,5/..-ST, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: -90 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard

MSTBC 2,5/21-ST-5,08 - PCB connector

1809006

<https://www.phoenixcontact.com/in/products/1809006>



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, type of contact: Socket, number of potentials: 21, number of rows: 1, number of positions: 21, number of connections: 21, product range: MSTBC 2,5/..-ST, pitch: 5.08 mm, connection method: Crimp connection, conductor/PCB connection direction: 0 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard, Corresponding female crimp contacts with current [A] and conductor cross section range [mm²] data: 10A/MSTBC-MT 0,5-1,0 (3190564); 10A/MSTBC-MT 0,5-1,0 BA (3190645); 12A/MSTBC-MT 1,5-2,5 (3190551); 12A/MSTBC-MT 1,5-2,5 BA (3190658). BA = Bandkontakte

MSTBV 2,5/21-G-5,08 - PCB header

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MSTBC 2,5/21-STZ-5,08 - PCB connector

1809695

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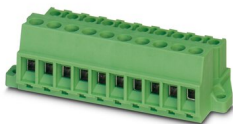


PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, type of contact: Socket, number of potentials: 21, number of rows: 1, number of positions: 21, number of connections: 21, product range: MSTBC 2,5/..-STZ, pitch: 5.08 mm, connection method: Crimp connection, conductor/PCB connection direction: 0 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard, Corresponding female crimp contacts with current [A] and conductor cross section range [mm²] data: 10A/MSTBC-MT 0,5-1,0 (3190564); 10A/MSTBC-MT 0,5-1,0 BA (3190645); 12A/MSTBC-MT 1,5-2,5 (3190551); 12A/MSTBC-MT 1,5-2,5 BA (3190658). BA = Bandkontakte

MSTBU 2,5/21-STD-5,08 - Printed-circuit board connector

1824311

<https://www.phoenixcontact.com/in/products/1824311>



Direct plug-in block, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Socket, number of potentials: 21, number of rows: 1, number of positions: 21, number of connections: 21, product range: MSTBU 2,5/..-STD, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, mounting: Direct mounting, conductor/PCB connection direction: 0 °, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard

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