

MSTBV 2,5 HC/ 4-GF - PCB header



1924431

<https://www.phoenixcontact.com/us/products/1924431>

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PCB headers, nominal cross section: 2.5 mm², color: green, nominal current: 16 A (see derating curve), rated voltage (III/2): 320 V, contact surface: Sn, contact connection type: Pin, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: MSTBV 2,5 HC/..-GF, pitch: 5 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 HC, Pin connector pattern alignment: Standard, locking: Screw locking mechanism, mounting: Threaded flange, type of packaging: packed in cardboard

Your advantages

- Well-known mounting principle allows worldwide use
- Screwable flange for superior mechanical stability
- Maximum flexibility when it comes to device design – one header for connectors with different connection technologies

Commercial data

Item number	1924431
Packing unit	50 pc
Minimum order quantity	50 pc
Sales key	AA03
Product key	AACSLA
Catalog page	Page 497 (C-1-2013)
GTIN	4017918607623
Weight per piece (including packing)	2.776 g
Weight per piece (excluding packing)	2.516 g
Customs tariff number	85366930
Country of origin	DE

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<https://www.phoenixcontact.com/us/products/1924431>

Technical data

Product properties

Product type	PCB headers
Product family	MSTBV 2,5 HC/..-GF
Product line	COMBICON Connectors M
Type	Standard
Number of positions	4
Pitch	5 mm
Number of connections	4
Number of rows	1
Number of potentials	4
Mounting flange	Threaded flange
Pin layout	Linear pinning
Solder pins per potential	1

Data management status

Article revision	02
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Electrical properties

Nominal current I_N	16 A (see derating curve)
Nominal voltage U_N	320 V
Contact resistance	1 m Ω
Rated voltage (III/3)	320 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)	630 V
Rated surge voltage (II/2)	4 kV

Mounting

Mounting type	Wave soldering
Pin layout	Linear pinning

Flange

Tightening torque	0.3 Nm
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Attachment on the PCB

Tightening torque	0.3 Nm
Screw	Sheet metal screw ISO 1481-ST 2,2x6,5 C or ISO 7049-ST 2,2x6,5 C

Material specifications

Material data - contact

Note	WEEE/RoHS-compliant, free of whiskers according to IEC
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1924431

<https://www.phoenixcontact.com/us/products/1924431>

	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 µm Ni)
Metal surface soldering area (top layer)	Tin (3 - 5 µm Sn)
Metal surface soldering area (middle layer)	Nickel (1 - 3 µm Ni)

Material data - housing

Color (Housing)	green (6021)
Insulating material	PA
Insulating material group	I
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

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 mm
Width [w]	30 mm
Height [h]	15.9 mm
Length [l]	8.6 mm
Installed height	12 mm
Solder pin length [P]	3.9 mm
Pin dimensions	1 x 1 mm

PCB design

Pin spacing	5.00 mm
Hole diameter	1.4 mm

Mechanical tests

Visual inspection

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1924431

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

Dimension check

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

Contact holder in insert

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

Insertion and withdrawal forces

Result	Test passed
No. of cycles	50
Insertion strength per pos. approx.	6 N
Withdraw strength per pos. approx.	5 N

Electrical tests

Thermal test | Test group C

Specification	IEC 60512-5-1:2002-02
Tested number of positions	12

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	I
Comparative tracking index (IEC 60112)	CTI 600
Rated insulation voltage (III/3)	320 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 mm

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1924431

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Rated insulation voltage (II/2)	630 V
Rated surge voltage (II/2)	4 kV
minimum clearance value - non-homogenous field (II/2)	3 mm
minimum creepage distance (II/2)	3.2 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)
Acceleration	5g (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h
Test directions	X-, Y- and Z-axis

Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	4.8 kV
Contact resistance R ₁	1 mΩ
Contact resistance R ₂	1 mΩ
Insertion/withdrawal cycles	50

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

Shocks

Specification	IEC 60068-2-27:2008-02
Pulse shape	Half-sine
Acceleration	30g
Shock duration	18 ms
Test directions	X-, Y- and Z-axis (pos. and neg.)

Ambient conditions

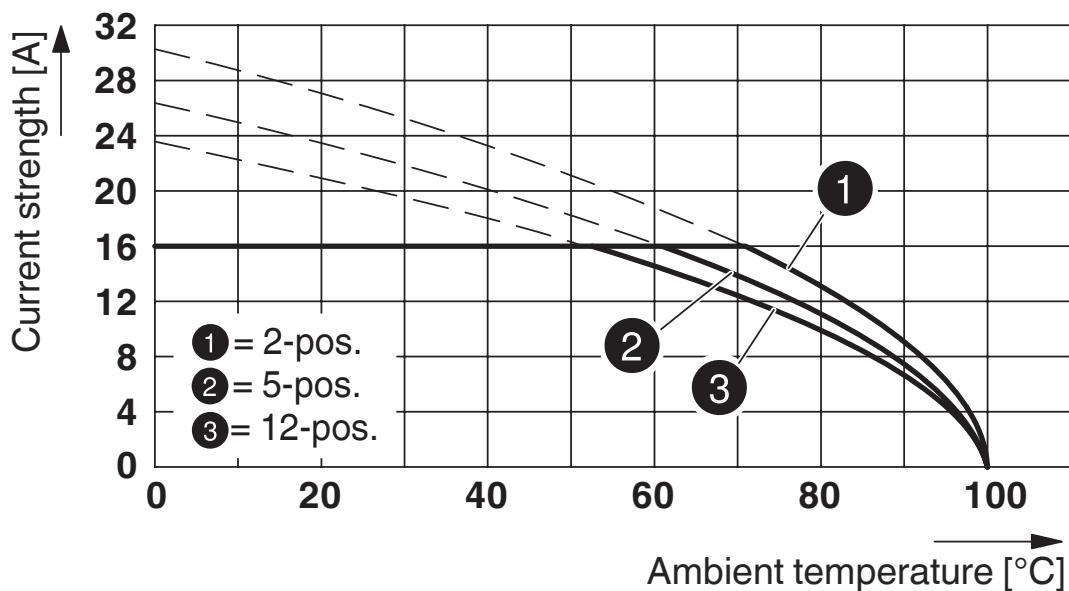
Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

Packaging specifications

Type of packaging	packed in cardboard
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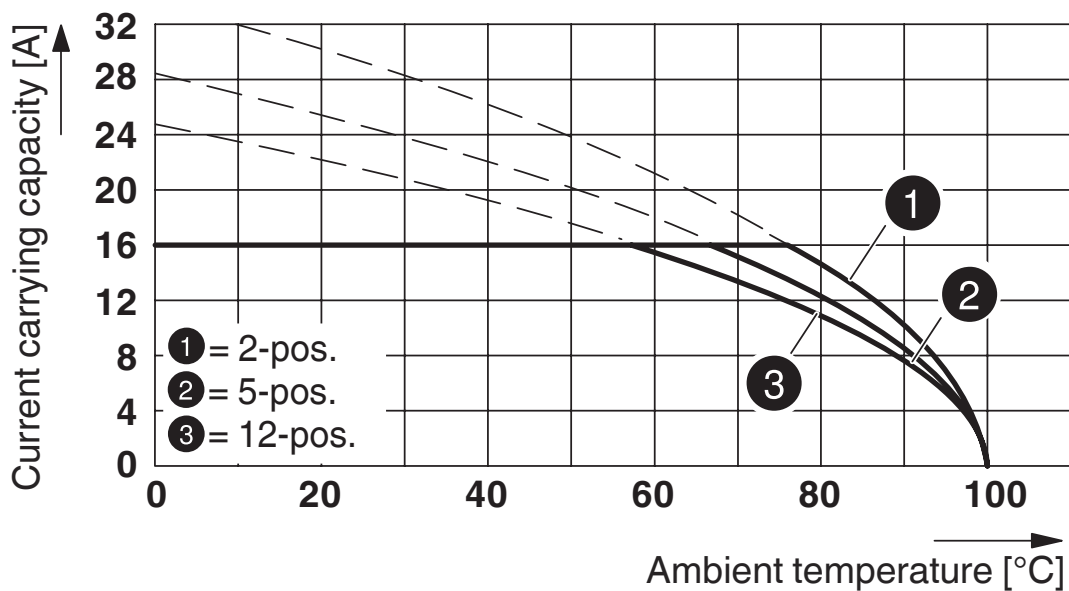
Drawings

Diagram



Type: FKC 2,5 HC/...-STF with MSTBV 2,5 HC/...-GF

Diagram



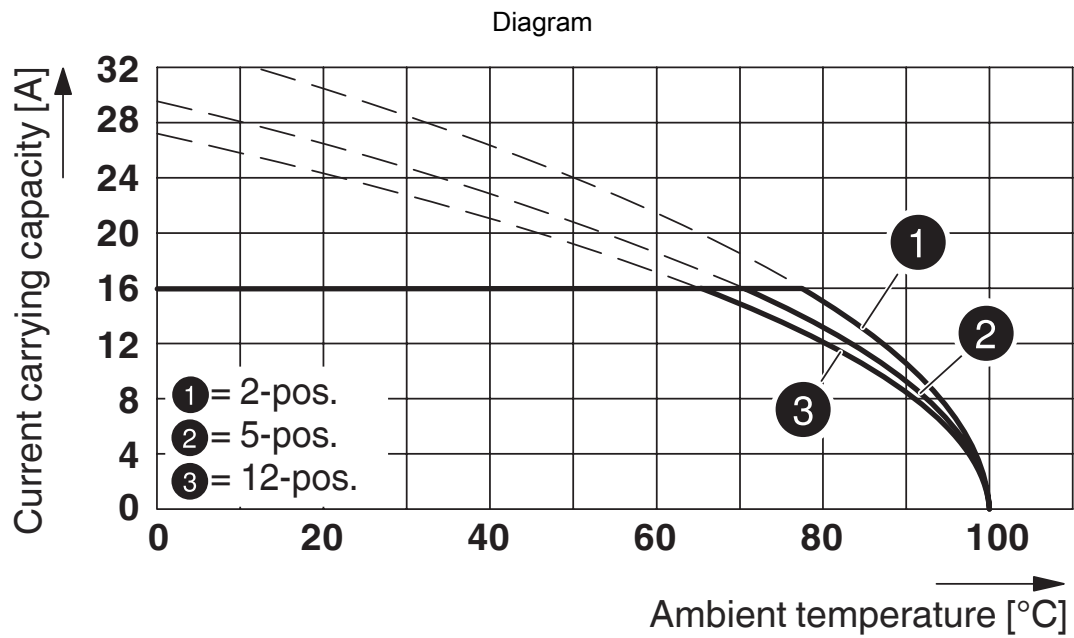
Type: MVSTBR 2,5 HC/...-STF with MSTBV 2,5 HC/...-GF

MSTBV 2,5 HC/ 4-GF - PCB header



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Type: MSTB 2,5 HC/...STF with MSTBV 2,5 HC/...GF

MSTBV 2,5 HC/ 4-GF - PCB header





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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1924431>

 cULus Recognized Approval ID: E60425-19931011				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
Use group B	300 V	16 A	-	-
Use group D	300 V	10 A	-	-

 VDE Zeichengenehmigung Approval ID: 40050079				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	250 V	16 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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