

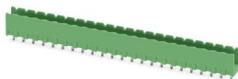
MSTBV 2,5/23-G-5,08 - PCB header



1758225

<https://www.phoenixcontact.com/us/products/1758225>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



PCB headers, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Sn, contact connection type: Pin, number of potentials: 23, number of rows: 1, number of positions: 23, number of connections: 23, 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 method: 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 | 1758225 |
| Packing unit | 50 pc |
| Minimum order quantity | 50 pc |
| Note | Made to order (non-returnable) |
| Sales key | AA03 |
| Product key | AACSMB |
| GTIN | 4017918030438 |
| Weight per piece (including packing) | 9.49 g |
| Weight per piece (excluding packing) | 8.43 g |
| Customs tariff number | 85366930 |
| Country of origin | DE |

MSTBV 2,5/23-G-5,08 - PCB header



1758225

<https://www.phoenixcontact.com/us/products/1758225>

Technical data

Product properties

| | |
|---------------------------|-----------------------|
| Product type | PCB headers |
| Product family | MSTBV 2,5/..-G |
| Product line | COMBICON Connectors M |
| Type | Standard |
| Number of positions | 23 |
| Pitch | 5.08 mm |
| Number of connections | 23 |
| Number of rows | 1 |
| Number of potentials | 23 |
| Mounting type | without |
| Pin layout | Linear pinning |
| Solder pins per potential | 1 |

Electrical properties

Properties

| | |
|-----------------------------|--------|
| Nominal current I_N | 12 A |
| Nominal voltage U_N | 320 V |
| Contact resistance | 2.4 mΩ |
| 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) |

MSTBV 2,5/23-G-5,08 - PCB header

1758225

<https://www.phoenixcontact.com/us/products/1758225>

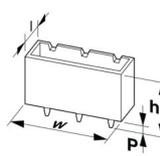
Material data - housing

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

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. |
|--------------------|--|

Dimensions

| | |
|-----------------------|---|
| Dimensional drawing |  |
| Pitch | 5.08 mm |
| Width [w] | 116.84 mm |
| Height [h] | 15.9 mm |
| Length [l] | 8.57 mm |
| Installed height | 12 mm |
| Solder pin length [P] | 3.9 mm |
| Pin dimensions | 1 x 1 mm |

PCB design

| | |
|---------------|--------|
| Hole diameter | 1.4 mm |
|---------------|--------|

Mechanical tests

Visual inspection

| | |
|---------------|-----------------------|
| 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 |

MSTBV 2,5/23-G-5,08 - PCB header



1758225

<https://www.phoenixcontact.com/us/products/1758225>

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 | 25 |
| Insertion strength per pos. approx. | 8 N |
| Withdraw strength per pos. approx. | 6 N |

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 |
| 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) |
| Acceleration | 5g (60.1 Hz ... 150 Hz) |

MSTBV 2,5/23-G-5,08 - PCB header



1758225

<https://www.phoenixcontact.com/us/products/1758225>

| | |
|------------------------|-------------------|
| 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 | 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

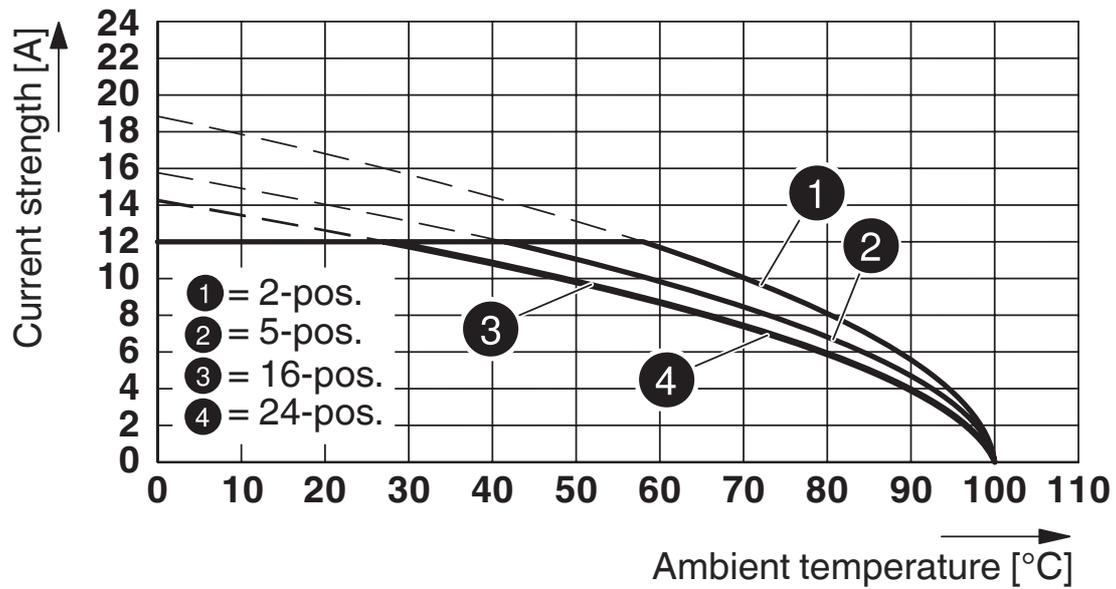
| | |
|---|---|
| Ambient temperature (operation) | -40 °C ... 100 °C (dependent on the derating curve) |
| Ambient temperature (storage/transport) | -40 °C ... 70 °C |
| Relative humidity (storage/transport) | 30 % ... 70 % |
| Ambient temperature (assembly) | -5 °C ... 100 °C |

Packaging specifications

| | |
|-------------------|---------------------|
| Type of packaging | packed in cardboard |
|-------------------|---------------------|

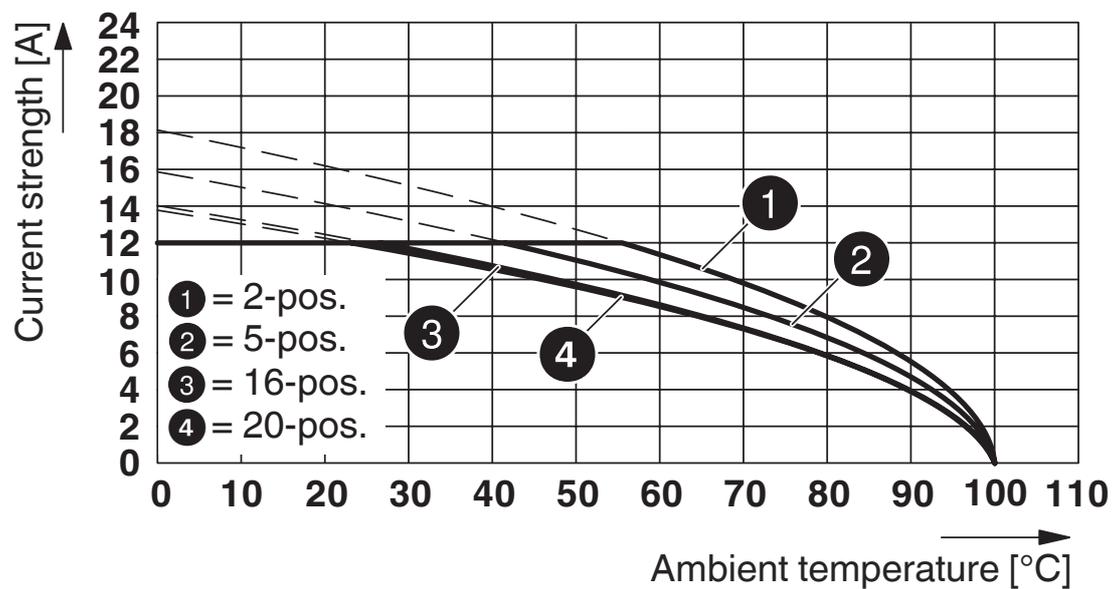
Drawings

Diagram

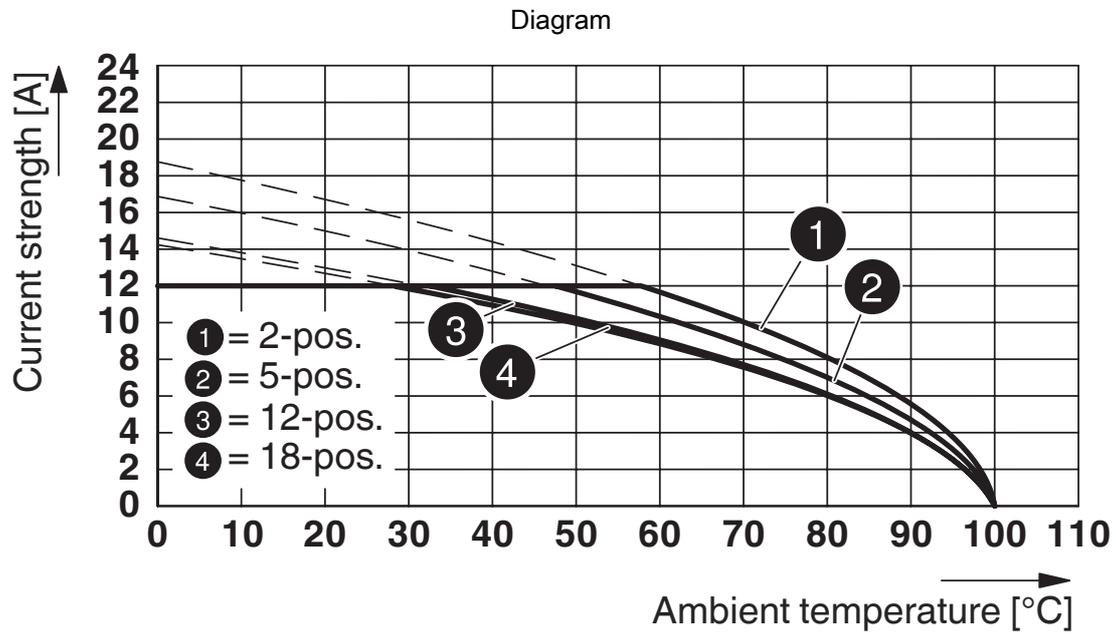


Type: MSTBP 2,5/...-ST-5,08 with MSTBV 2,5/...-G-5,08

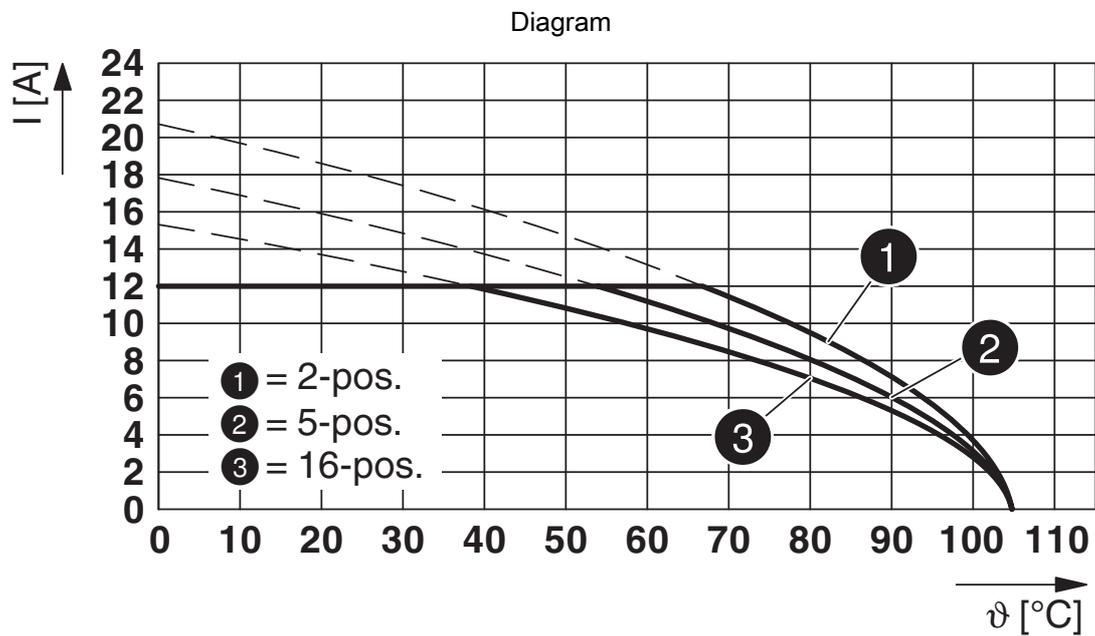
Diagram



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



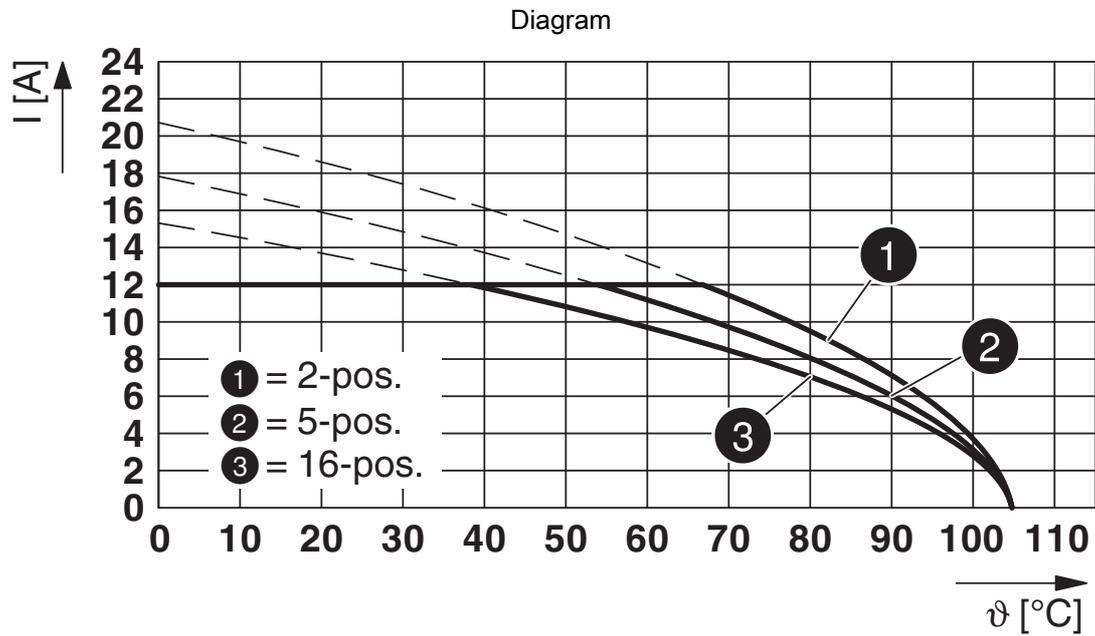
Type: MSTBT 2,5/...-ST-5,08 with MSTBV 2,5/...-G-5,08-5,08



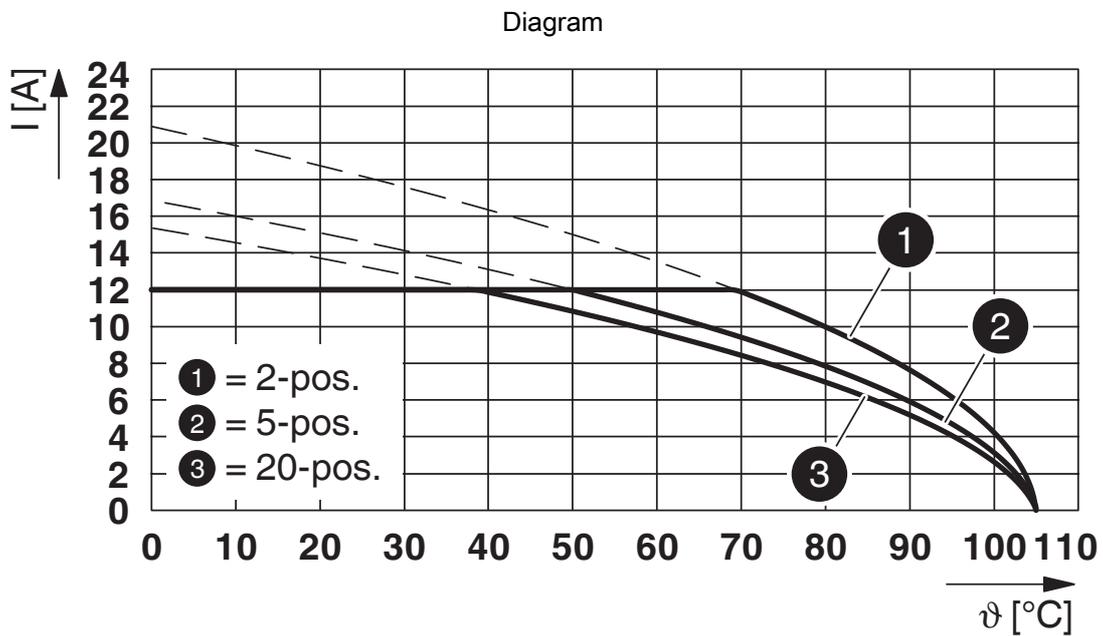
Type: FKCVR 2,5/...-ST-5,08 with MSTBV 2,5/...-G-5,08

1758225

<https://www.phoenixcontact.com/us/products/1758225>



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



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

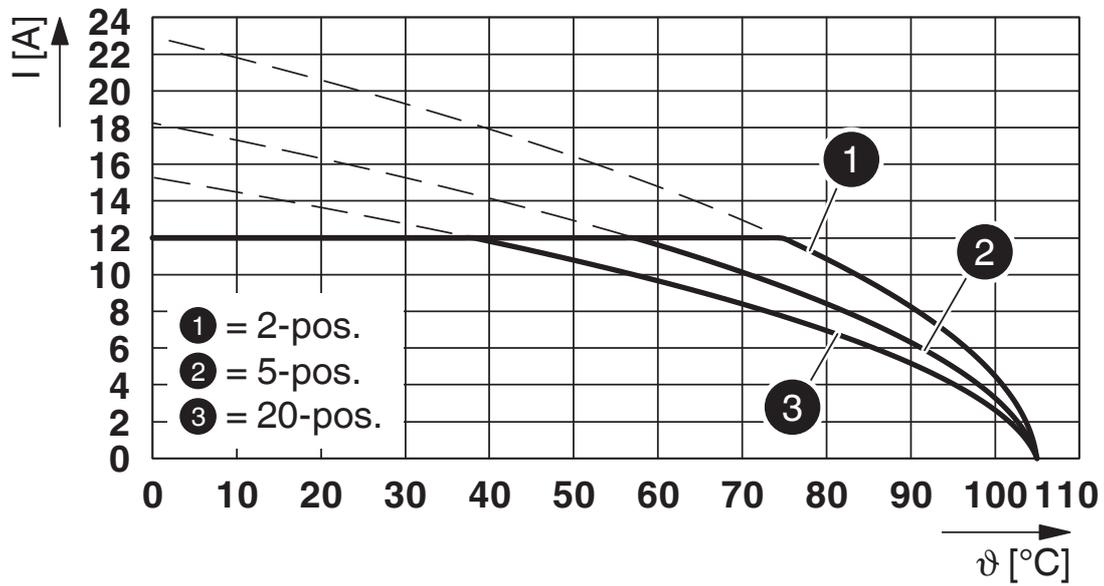
MSTBV 2,5/23-G-5,08 - PCB header



1758225

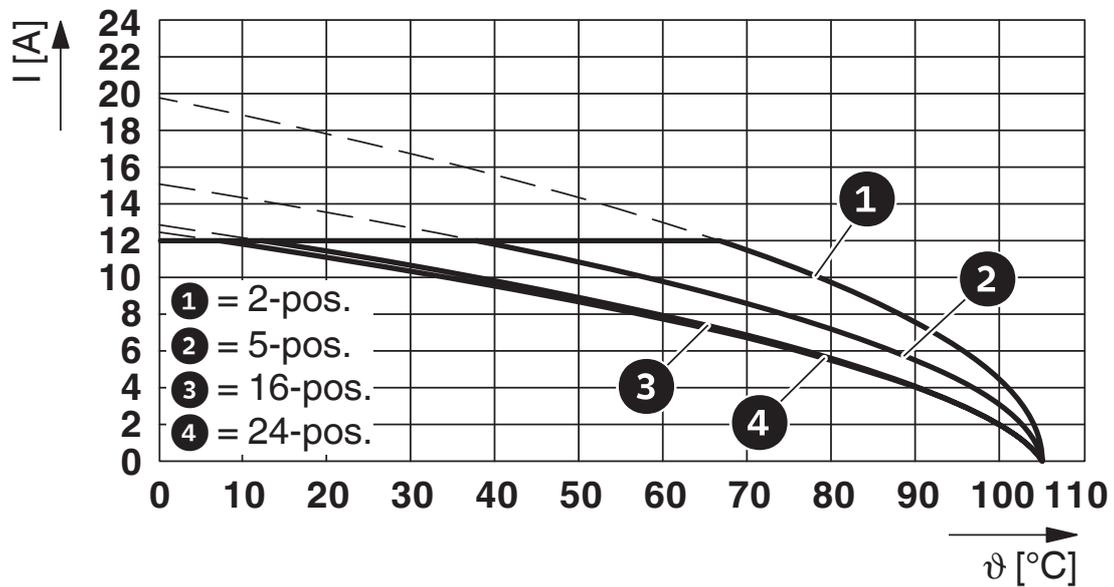
<https://www.phoenixcontact.com/us/products/1758225>

Diagram



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

Diagram



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

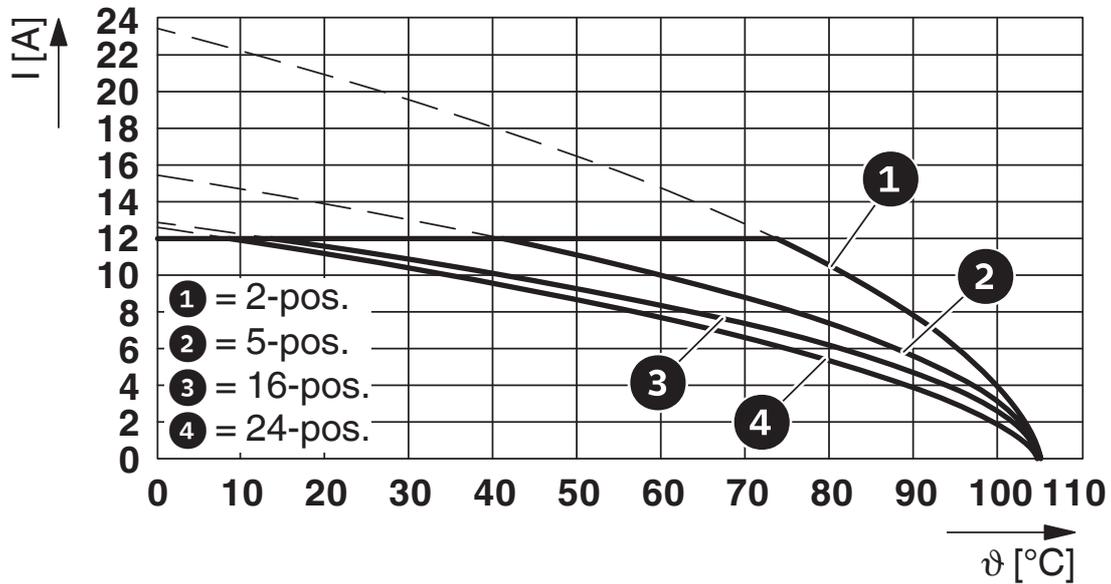
MSTBV 2,5/23-G-5,08 - PCB header



1758225

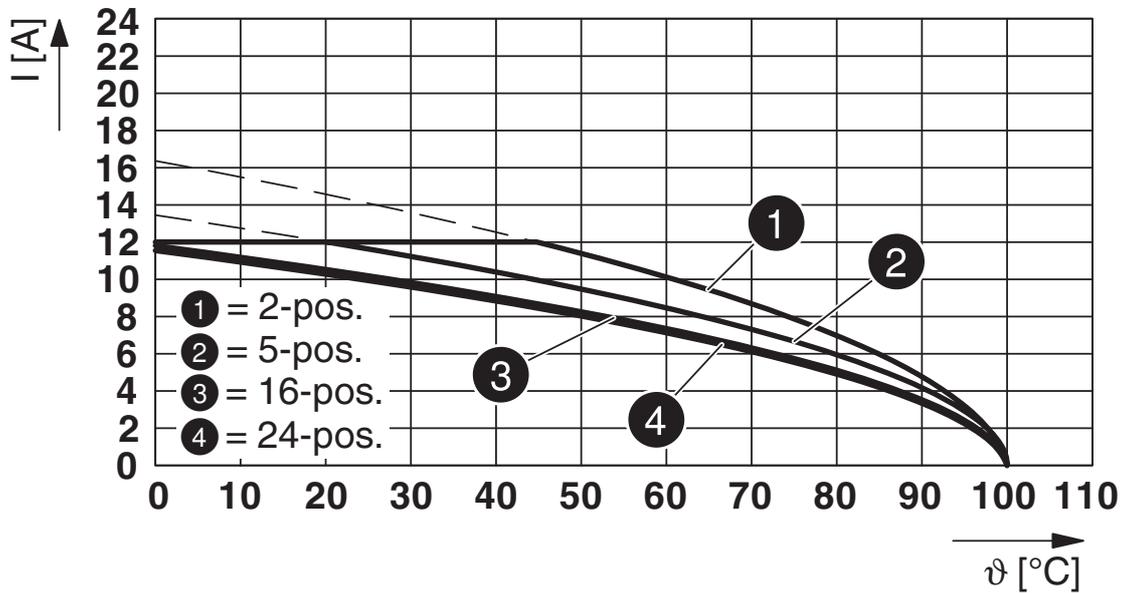
<https://www.phoenixcontact.com/us/products/1758225>

Diagram

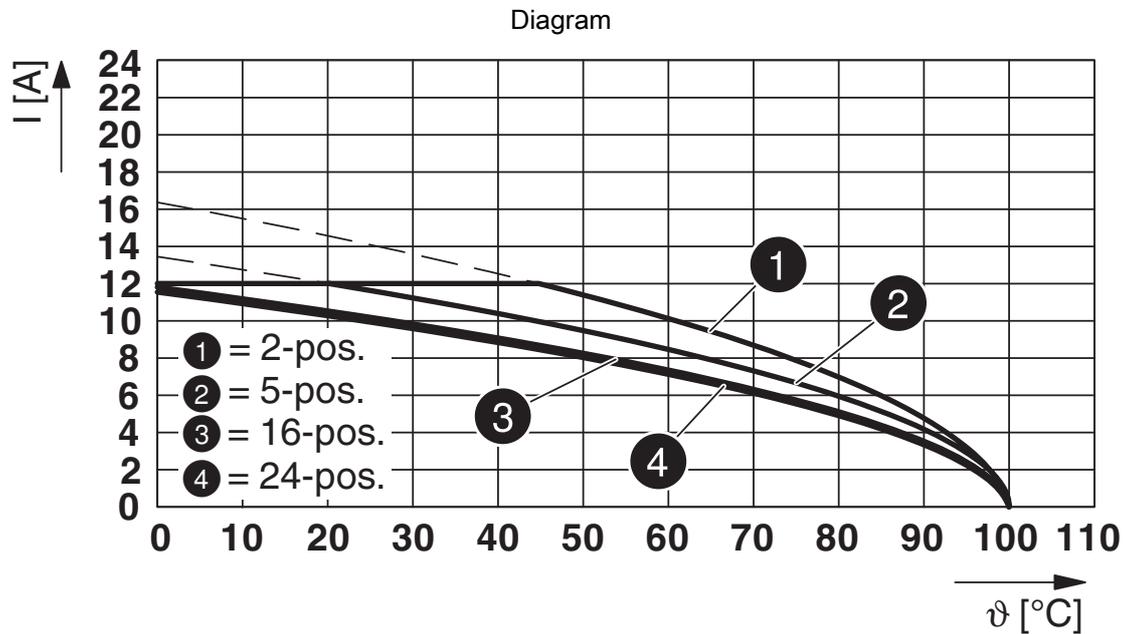


Type: ICV 2,5/...-G-5,08 with MSTBV 2,5/...-G-5,08

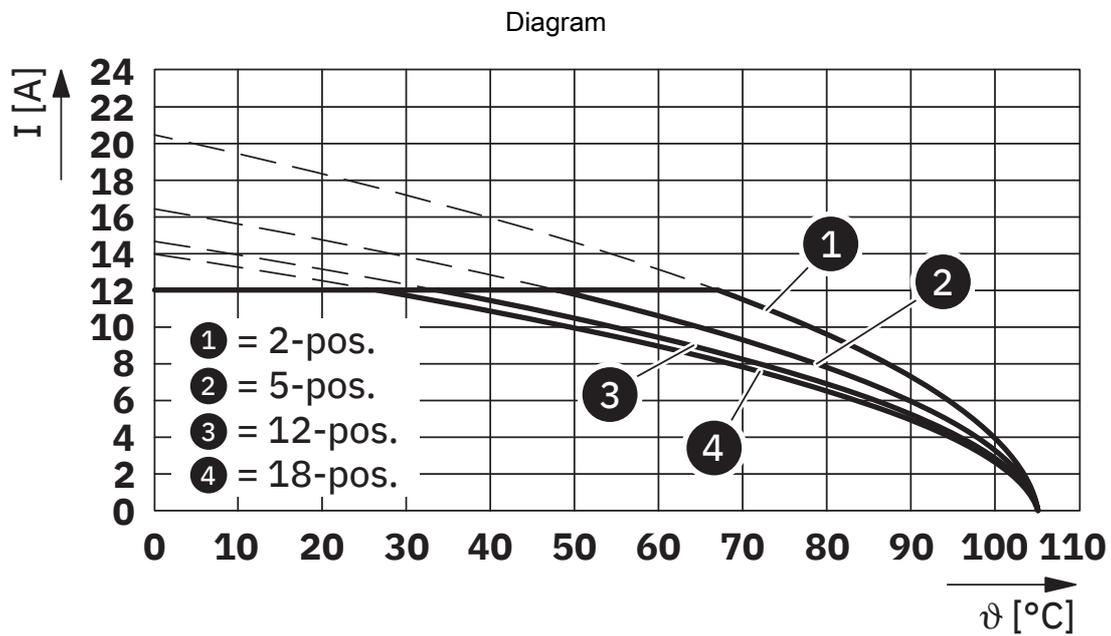
Diagram



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



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



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

MSTBV 2,5/23-G-5,08 - PCB header



1758225

<https://www.phoenixcontact.com/us/products/1758225>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1758225>

|  CSA Approval ID: 13631-2585951 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| B | 300 V | 12 A | - | - |
| D | 300 V | 10 A | - | - |

|  cULus Recognized Approval ID: E60425-19931011 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| B | 300 V | 12 A | - | - |
| D | 300 V | 10 A | - | - |

|  VDE approval of drawings Approval ID: 40050648 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | 250 V | 12 A | - | - |

MSTBV 2,5/23-G-5,08 - PCB header



1758225

<https://www.phoenixcontact.com/us/products/1758225>

Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27460201 |
| ECLASS-15.0 | 27460201 |

ETIM

| | |
|----------|----------|
| ETIM 9.0 | EC002637 |
|----------|----------|

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 39121400 |
|-------------|----------|

MSTBV 2,5/23-G-5,08 - PCB header



1758225

<https://www.phoenixcontact.com/us/products/1758225>

Environmental product compliance

EU RoHS

| | |
|---|--------------------|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |
|---|--------------------|

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% |
|-------------------------------------|----------------------------|

Phoenix Contact 2025 © - all rights reserved
<https://www.phoenixcontact.com>

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com