

# Feed-through header - MDSTBV 2,5/ 9-GF-5,08 - 1845701

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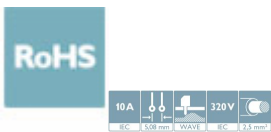


PCB headers, nominal current: 10 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm, The article can be aligned to create different nos. of positions! In combination with MVSTB or FKCV plug components, both an MVSTBW (or FKCVW) and an MVSTBR plug (or FKCVR) must be used. Combination with TMSTBP plug components is not possible!

The figure shows a 10-pos. version with 20 contacts

## Your advantages

- ✓ Maximum flexibility when it comes to device design – one header for connectors with different connection technologies
- ✓ Easy PCB replacement thanks to plug-in modules
- ✓ Well-known mounting principle allows worldwide use
- ✓ Conductor connection on several levels enables higher contact density
- ✓ Screwable flange for superior mechanical stability



## Key Commercial Data

|              |               |
|--------------|---------------|
| Packing unit | 50 pc         |
| GTIN         |               |
| GTIN         | 4017918184360 |

## Technical data

### Item properties

|                           |                     |
|---------------------------|---------------------|
| Brief article description | Feed-through header |
| Plug-in system            | CLASSIC COMBICON    |
| Type of contact           | Male connector      |
| Range of articles         | MDSTBV 2,5/...-GF   |
| Pitch                     | 5.08 mm             |
| Number of positions       | 9                   |
| Mounting type             | Wave soldering      |
| Pin layout                | Linear pinning      |
| Locking                   | Threaded flange     |
| Number of levels          | 2                   |

# Feed-through header - MDSTBV 2,5/ 9-GF-5,08 - 1845701

## Technical data

### Item properties

|                       |    |
|-----------------------|----|
| Number of connections | 18 |
| Number of potentials  | 18 |

### Electrical parameters

|                             |       |
|-----------------------------|-------|
| Nominal current             | 10 A  |
| Nom. voltage                | 320 V |
| Rated voltage               | 250 V |
| Rated voltage (III/2)       | 320 V |
| Rated voltage (II/2)        | 400 V |
| Rated surge voltage (III/3) | 4 kV  |
| Rated surge voltage (III/2) | 4 kV  |
| Rated surge voltage (II/2)  | 4 kV  |

### 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 (5 - 7 µm Sn)   |
| Metal surface contact area (middle layer)   | Nickel (2 - 3 µm Ni),   |
| Metal surface soldering area (top layer)    | Tin (5 - 7 µm Sn)   |
| Metal surface soldering area (middle layer) | Nickel (2 - 3 µm Ni)  |

### Material data - housing

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

### Dimensions for the product

|                             |          |
|-----------------------------|----------|
| Length [ l ]                | 23.7 mm  |
| Width [ w ]                 | 58.42 mm |
| Height [ h ]                | 26 mm    |
| Pitch                       | 5.08 mm  |
| Height (without solder pin) | 22.1 mm  |
| Solder pin [P]              | 3.9 mm   |
| Pin spacing                 | 15.24 mm |
| Pin dimensions              | 1 x 1 mm |

### Dimensions for PCB design

|               |          |
|---------------|----------|
| Hole diameter | 1.4 mm   |
| Pin spacing   | 15.24 mm |

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## Technical data

### Packaging information

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

### 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) |

### 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)         | 4 mm                |
| Minimum creepage distance value (III/2)         | 4 mm                |
| Minimum creepage distance value (II/2)          | 4 mm                |

### 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>            | 2.5 mΩ                |
| Insertion/withdrawal cycles                  | 25                    |
| Contact resistance R <sub>2</sub>            | 2.5 mΩ                |
| Impulse withstand voltage at sea level       | 4.8 kV                |
| Power-frequency withstand voltage            | 2.21 kV               |
| Insulation resistance, neighboring positions | > 0.2 TΩ              |

### Thermal tests (C)

|   |                       |
|---|-----------------------|
| Specification                                   | IEC 60512-5-1:2002-02 |
| Number of positions                             | 12                    |
| Conductor cross section                         | 2.5 mm <sup>2</sup>   |
| Test current                                    | 10 A                  |
| Upper limiting temperature requirements <100 °C | Test passed           |

### Climatic tests (D)

|               |                  |
|---------------|------------------|
| Specification | ISO 6988:1985-02 |
|---------------|------------------|

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## Technical data

### Climatic tests (D)

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

### Vibration test

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

### Standards and Regulations

|  |        |
|--|--------|
| Connection in acc. with standard       | EN-VDE |
|  | CUL    |
| Flammability rating according to UL 94 | V0     |

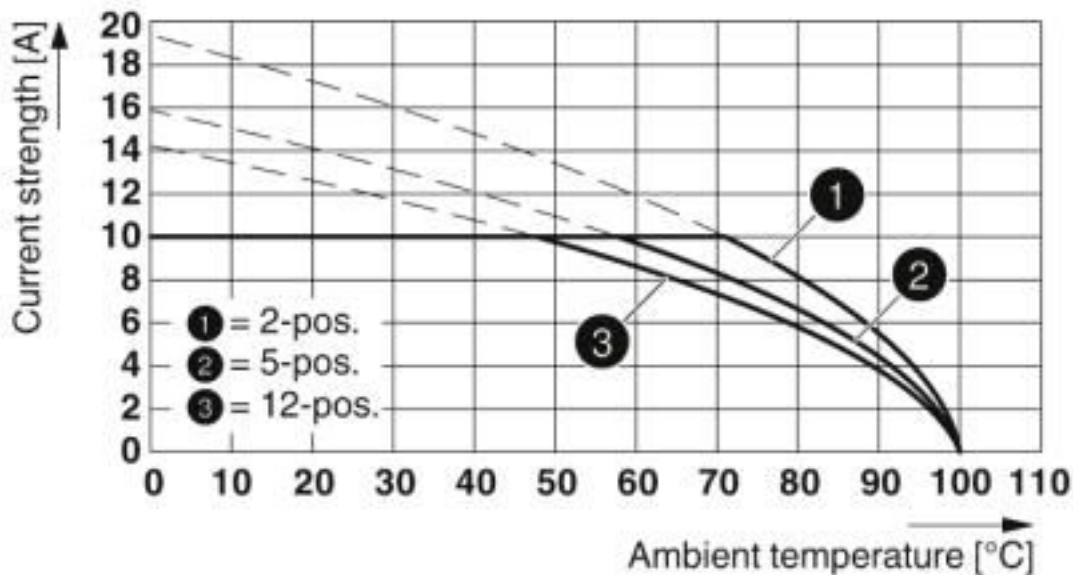
### Environmental Product Compliance

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

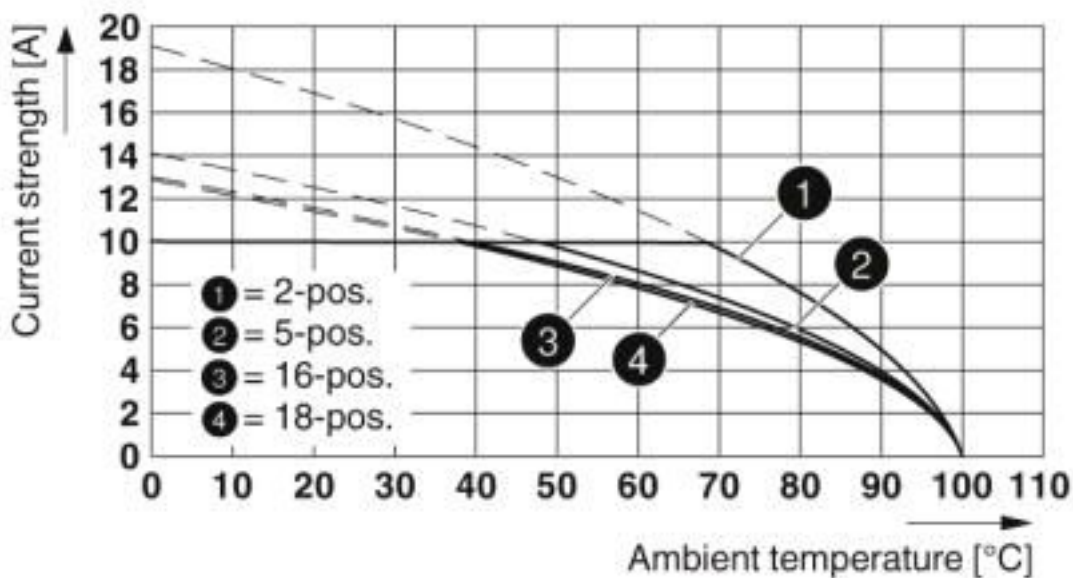
# Feed-through header - MDSTBV 2,5/ 9-GF-5,08 - 1845701

Diagram



Type: MSTB 2,5/...-STF-5,08 with MDSTBV 2,5/...-GF-5,08

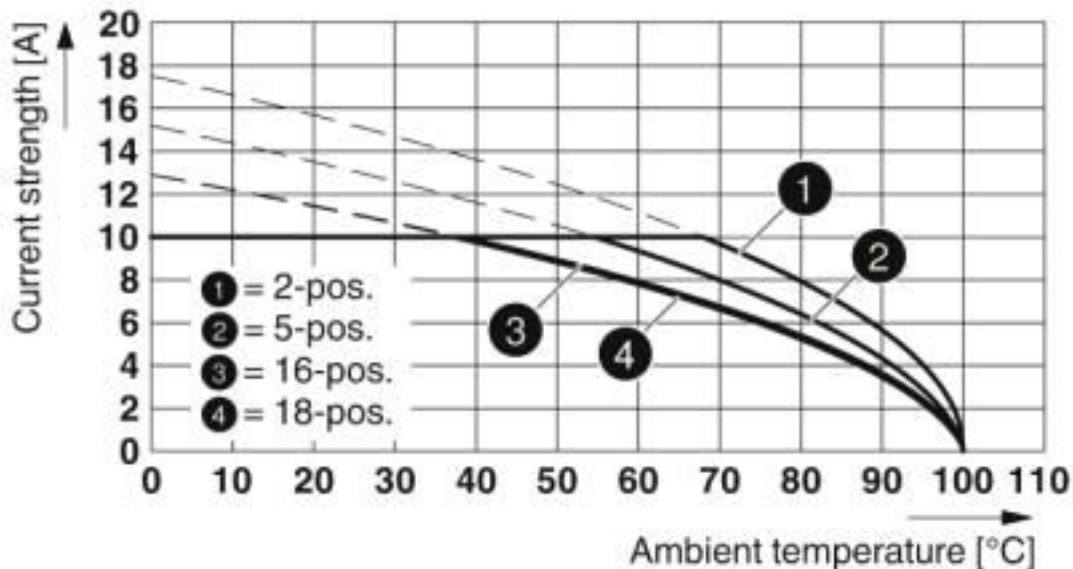
Diagram



Type: MSTBT 2,5/...-STF-5,08 with MDSTBV 2,5/...-GF-5,08

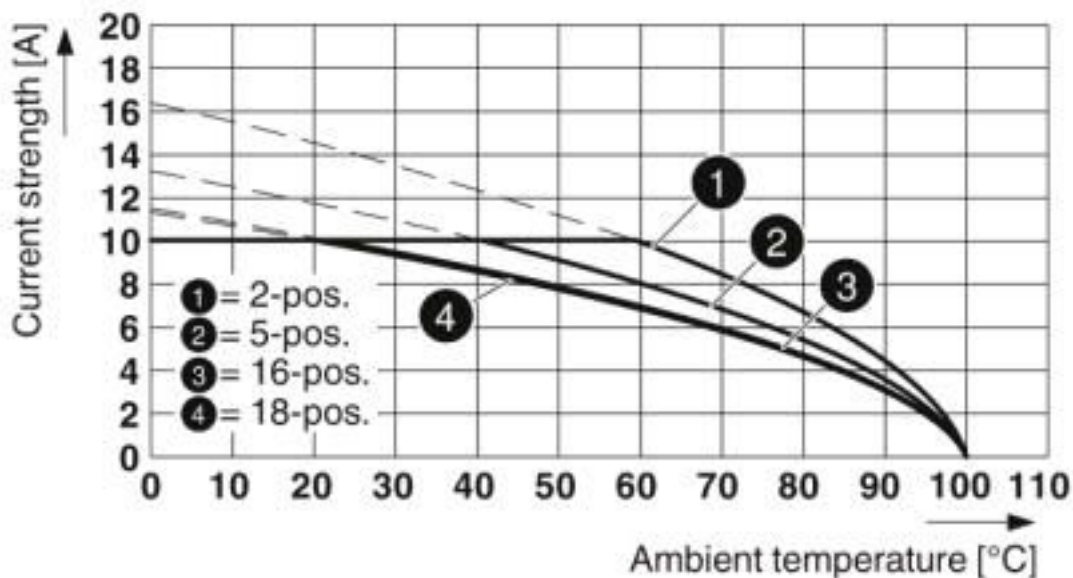
# Feed-through header - MDSTBV 2,5/ 9-GF-5,08 - 1845701

Diagram



Type: FRONT-MSTB 2,5/...-STF-5,08 with MDSTBV 2,5/...-GF-5,08

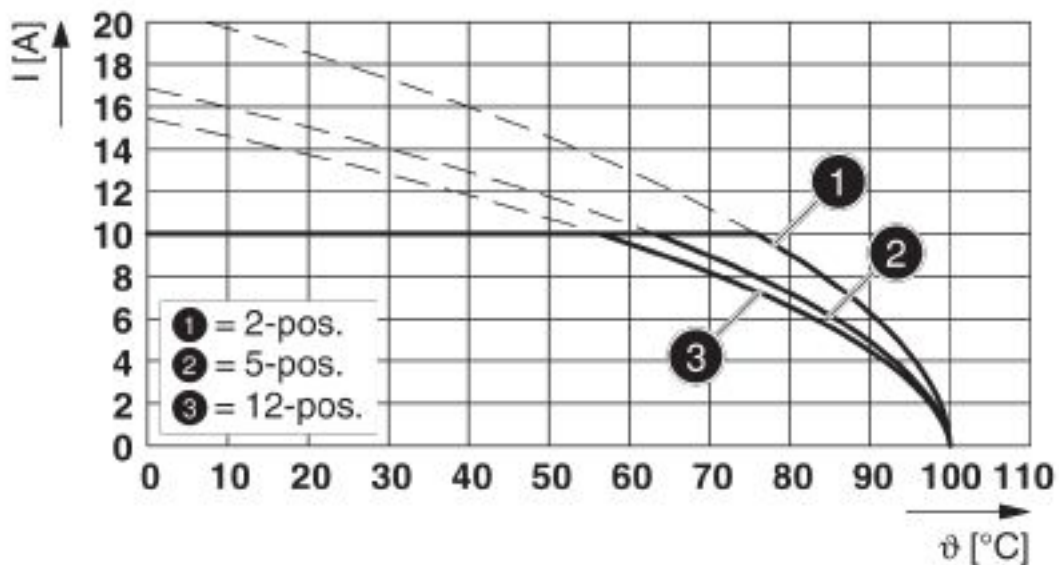
Diagram



Type: MVSTB(R/W) 2,5/...-STF-5,08 with MDSTBV 2,5/...-GF-5,08

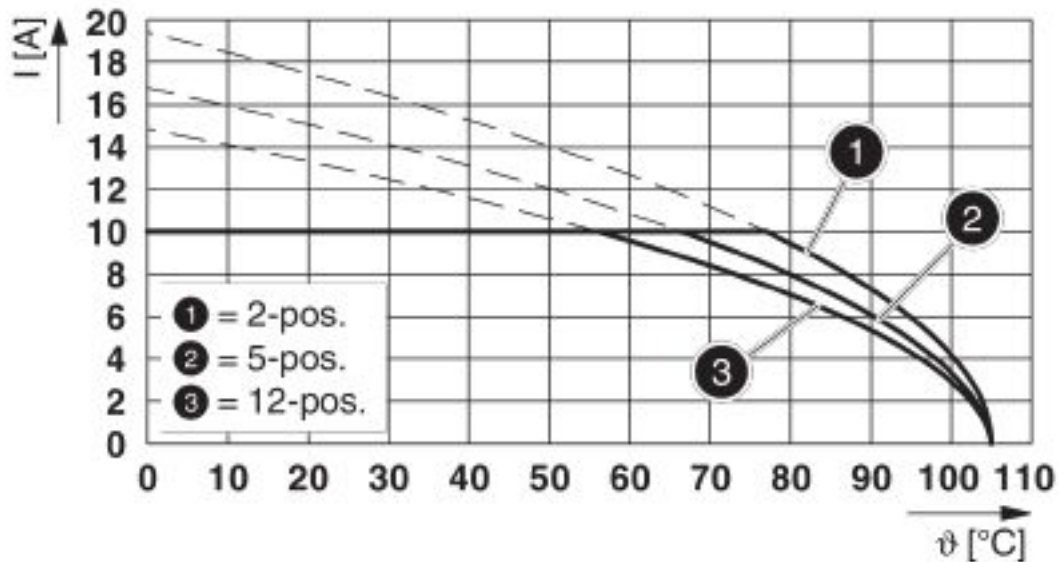
# Feed-through header - MDSTBV 2,5/ 9-GF-5,08 - 1845701

Diagram



Type: FKCS 2,5/...-STF-5,08 with MDSTBV 2,5/...-GF-5,08

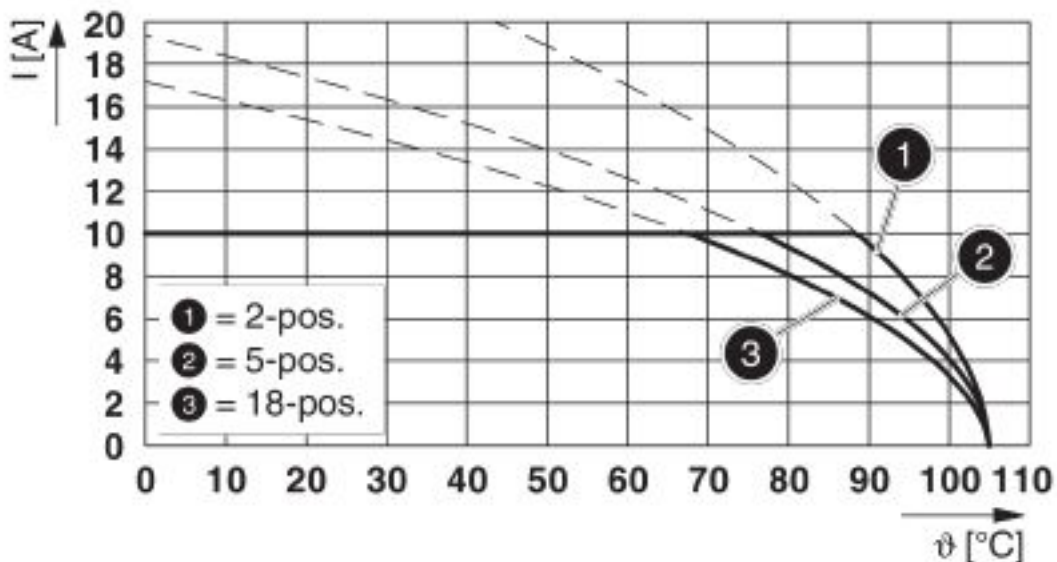
Diagram



Type: FKCT 2,5/...-STF-5,08 with MDSTBV 2,5/...-GF-5,08

# Feed-through header - MDSTBV 2,5/ 9-GF-5,08 - 1845701

Diagram



Type: FKCN 2,5/...-STF-5,08 with MDSTBV 2,5/...-GF-5,08

## Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27440402 |
| 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    | 27440402 |
| eCl@ss 8.0    | 27440402 |
| eCl@ss 9.0    | 27440402 |

ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC001121 |
| ETIM 4.0 | EC002637 |
| ETIM 5.0 | EC002637 |
| ETIM 6.0 | EC002637 |
| ETIM 7.0 | EC002637 |

UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30211810 |
| UNSPSC 7.0901 | 39121409 |
| UNSPSC 11     | 39121409 |
| UNSPSC 12.01  | 39121409 |



# Feed-through header - MDSTBV 2,5/ 9-GF-5,08 - 1845701

## Classifications

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 13.2 | 39121409 |
| 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 | 10 A  |   |                |

|     |  |         |
|-----|--|---------|
| EAC |  | B.01687 |
|-----|--|---------|

|                    |       |   |                 |
|--------------------|-------|---|-----------------|
| 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 | 150 V   |                 |
| Nominal current IN | 12 A  | 12 A  |                 |

|                        |       |   |          |
|------------------------|-------|---|----------|
| 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> | 40050648 |
| Nominal voltage UN     | 250 V |   |          |

## Feed-through header - MDSTBV 2,5/ 9-GF-5,08 - 1845701

### Approvals

|                                |      |
|--------------------------------|------|
| Nominal current I <sub>N</sub> | 10 A |
|--------------------------------|------|

### Accessories

#### Accessories

#### Coding element

Coding section - CR-MSTB - 1734401



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

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#### Filler plug

Accessories - MSTB-BL - 1755477



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

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#### 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

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#### Marker pen

Marker pen - B-STIFT - 1051993



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

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#### Terminal marking

## Feed-through header - MDSTBV 2,5/ 9-GF-5,08 - 1845701

### Accessories

Marker card - SK 5,08/3,8:UNBEDRUCKT - 0805412



Marker card, 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

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### Additional products

Printed-circuit board connector - TVMSTB 2,5/ 9-STF-5,08 - 1719163



PCB connector, nominal current: 12 A, rated voltage (III/2): 400 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

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Printed-circuit board connector - FKCN 2,5/ 9-STF-5,08 - 1754869



PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5.08 mm, connection method: Push-in spring connection, color: green, contact surface: Tin

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Printed-circuit board connector - FRONT-MSTB 2,5/ 9-STF-5,08 - 1777866



PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5.08 mm, connection method: Front screw connection, color: green, contact surface: Tin

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Printed-circuit board connector - MSTB 2,5/ 9-STF-5,08 - 1778056



PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

## Feed-through header - MDSTBV 2,5/ 9-GF-5,08 - 1845701

### Accessories

#### Printed-circuit board connector - MSTBT 2,5/ 9-STF-5,08 - 1805369

PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin



#### Printed-circuit board connector - MSTBC 2,5/ 9-STZF-5,08 - 1809802

PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5.08 mm, connection method: Crimp connection, color: green, Corresponding female crimp contacts with current [A] and conductor cross section range [mm<sup>2</sup>] 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



#### Printed-circuit board connector - MVSTBW 2,5/ 9-STF-5,08 - 1834974

PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin



#### Printed-circuit board connector - MVSTBR 2,5/ 9-STF-5,08 - 1835164

PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin



#### Printed-circuit board connector - TMSTBP 2,5/ 9-STF-5,08 - 1853175

PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin, The plug allows conductors to be looped through from module to module.



## Feed-through header - MDSTBV 2,5/ 9-GF-5,08 - 1845701

### Accessories

#### Printed-circuit board connector - FKC 2,5/ 9-STF-5,08 - 1873278

PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5.08 mm, connection method: Push-in spring connection, color: green, contact surface: Tin



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#### Printed-circuit board connector - FKCVW 2,5/ 9-STF-5,08 - 1873870

PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5.08 mm, connection method: Push-in spring connection, color: green, contact surface: Tin



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#### Printed-circuit board connector - FKCVR 2,5/ 9-STF-5,08 - 1874170

PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5.08 mm, connection method: Push-in spring connection, color: green, contact surface: Tin



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#### Printed-circuit board connector - FKCT 2,5/ 9-STF-5,08 - 1902372

PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5.08 mm, connection method: Push-in spring connection, color: green, contact surface: Tin



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#### Printed-circuit board connector - TFKC 2,5/ 9-STF-5,08 - 1962765

PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5.08 mm, connection method: Push-in spring connection, color: green, contact surface: Tin



## Feed-through header - MDSTBV 2,5/ 9-GF-5,08 - 1845701

### Accessories

Printed-circuit board connector - SMSTB 2,5/ 9-STF-5,08 - 1971138

PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin



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Printed-circuit board connector - FKCS 2,5/ 9-STF-5,08 - 1975338

PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 9, pitch: 5.08 mm, connection method: Push-in spring connection, color: green, contact surface: Tin



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