# DFK-MSTB 2,5/ 5-G-5,08 - Feed-through header

0707277

https://www.phoenixcontact.com/us/products/0707277

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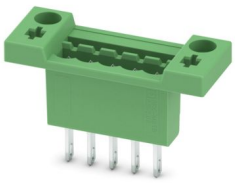


Feed-through header, nominal cross section: 2.5 mm$^2$, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Pin, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: DFK-MSTB 2,5/..-G, pitch: 5.08 mm, connection method: Solder/Slip-on connection, mounting: Direct mounting, pin layout: Linear pinning, solder pin [P]: 9.3 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, accessory Item No. 5030172 can only be used in conjunction with MSTB 2,5/...ST-5,08 and MSTBT 2,5/...ST-5,08.

## Your advantages

- Cable connection on the inside of the device enables flexible positioning of the panel feed-through
- Free choice – permanent solder connection or standardized slip-on connection
- Maximum flexibility when it comes to device design – one header for connectors with different connection technologies

## Commercial data

| | |
|---|---|
| Item number | 0707277 |
| Packing unit | 50 pc |
| Minimum order quantity | 50 pc |
| Sales key | AA03 |
| Product key | AACWBA |
| Catalog page | Page 352 (C-1-2013) |
| GTIN | 4017918004040 |
| Weight per piece (including packing) | 6.13 g |
| Weight per piece (excluding packing) | 5.464 g |
| Customs tariff number | 85366930 |
| Country of origin | DE |

## Technical data

### Product properties

| | |
|---|---|
| Product type | Feed-through header |
| Product family | DFK-MSTB 2,5/..-G |
| Product line | COMBICON Connectors M |
| Type | Feed-through header |
| Number of positions | 5 |
| Pitch | 5.08 mm |
| Number of connections | 5 |
| Number of rows | 1 |
| Number of potentials | 5 |
| Mounting flange | without |
| Pin layout | Linear pinning |
| Solder pins per potential | 1 |

Data management status

| | |
|---|---|
| Article revision | 03 |

### Electrical properties

| | |
|---|---|
| Nominal current $I_N$ | 12 A |
| Nominal voltage $U_N$ | 320 V |
| Contact resistance | 1.7 mΩ |
| 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 | Direct mounting |
| Pin layout | Linear pinning |

Attachment to feed-through panel

| | |
|---|---|
| Tightening torque | 0.3 Nm |
| Screw | 0708263 DFK-MSTB SS for housing walls of up to 6 mm thick |

### 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 (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) |

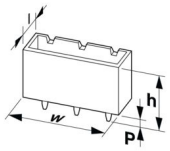
Material data - housing

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

## Dimensions

| | |
|---|---|
| Dimensional drawing |  |
| Pitch | 5.08 mm |
| Width [w] | 45.72 mm |
| Height [h] | 29.5 mm |
| Length [l] | 17.5 mm |
| Installed height | 20.2 mm |
| Solder pin length [P] | 9.3 mm |
| Pin dimensions | 0.8 x 2.8 mm |

PCB design

| | |
|---|---|
| Hole diameter | 3.2 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 |

Contact holder in insert

| | |
|---|---|
| Specification | IEC 60512-15-1:2008-05 |
| Contact holder in insert<br>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 | 16 |

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 |
| 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 $R_1$ | 1.7 mΩ |
| Contact resistance $R_2$ | 1.7 mΩ |
| Insertion/withdrawal cycles | 25 |
| Insulation resistance, neighboring positions | > 5 MΩ |

Climatic test

| | |
|---|---|
| Specification | ISO 22479:2019-05 |
| Corrosive stress | 0.2 $dm^3$ $SO_2$ on 300 $dm^3$/40 °C/1 cycle |
| Thermal stress | 105 °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

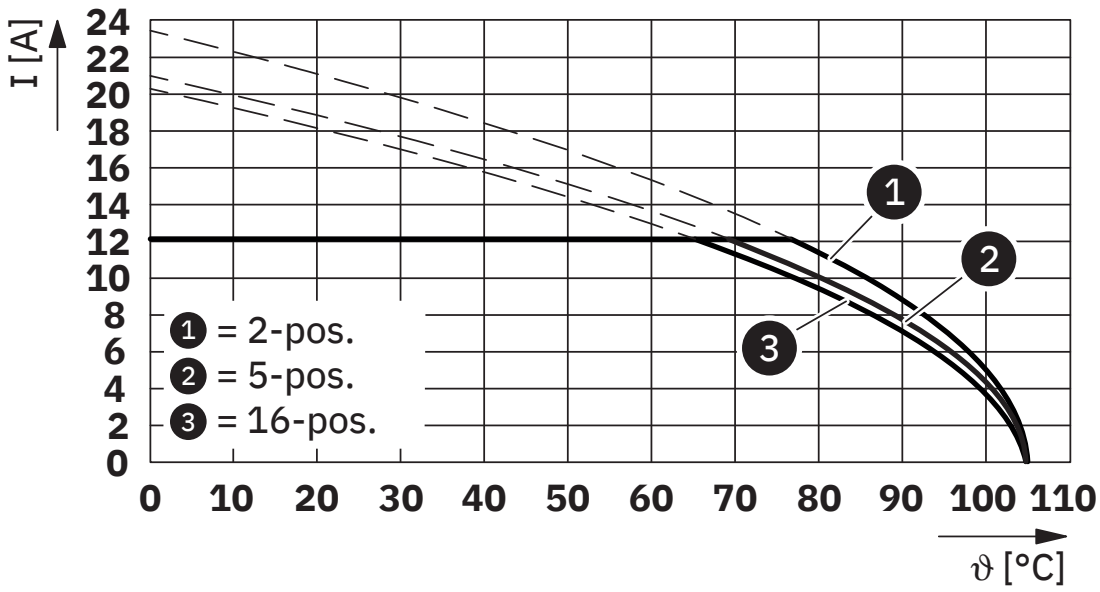
| | |
|---|---|
| Type of packaging | packed in cardboard |


## Packaging specifications

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

## Drawings

Diagram




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

## Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/0707277

**CSA**
Approval ID: 13631

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| Use group B | | | | |
| | 300 V | 15 A | - | - |
| Use group D | | | | |
| | 300 V | 10 A | - | - |

**cULus Recognized**
Approval ID: E60425-19931011

| | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
|---|---|---|---|---|
| Use group B | | | | |
| | 300 V | 15 A | - | - |
| Use group D | | | | |
| | 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 | - | - |

## Classifications

### ECLASS

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

### ETIM

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

### UNSPSC

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

## 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% |

## Accessories

### DFK-MSTB-SS - Screw set

0708263

https://www.phoenixcontact.com/us/products/0708263

Screw set, for securing the header to the device wall, consists of an M3 x 10 screw, with a spring washer and a nut

### CR-MSTB - Coding section

1734401

https://www.phoenixcontact.com/us/products/1734401

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

## MSTB-BL - Accessories

1755477

https://www.phoenixcontact.com/us/products/1755477

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

## DFK-MSTB-R - Accessories

5030172

https://www.phoenixcontact.com/us/products/5030172

Locking latch, red insulating material, for housings MSTB 2.5/...ST and MSTBT 2.5/...ST

## C-SCF 1/2,8X0,8 - Connector

3240153

https://www.phoenixcontact.com/us/products/3240153

Slip-on sleeve, non-insulated, 0.5 ... 1 $mm^2$, 2.8 x 0.8

## C-SCFI 1,5/2,8X0,8 - Connector

3240049

https://www.phoenixcontact.com/us/products/3240049

Slip-on sleeve, red, 0.5 ... 1.5 $mm^2$, 2.8 x 0.8

## C-SCFFI 1,5/2,8X0,8 - Connector

3240535

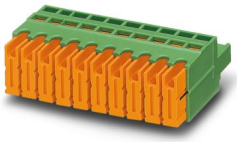
https://www.phoenixcontact.com/us/products/3240535

Slip-on sleeve, fully isolated, red, 0.5 ... 1.5 $mm^2$, for plug 2.8 x 0.8 mm

## QC 1/ 5-ST-5,08 - PCB connector

1883284

https://www.phoenixcontact.com/us/products/1883284

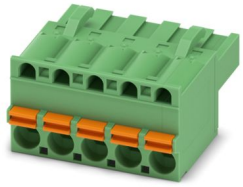


PCB connector, nominal cross section: 1 $mm^2$, color: green, nominal current: 10 A, rated voltage (III/2): 630 V, contact surface: Tin, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: QC 1/..-ST, pitch: 5.08 mm, connection method: Displacement 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

## FKCT 2,5/ 5-ST-5,08 - PCB connector

1902149

https://www.phoenixcontact.com/us/products/1902149

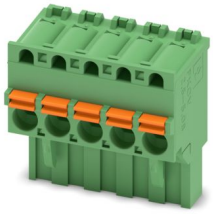


PCB connector, nominal cross section: 2.5 mm$^2$, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: FKCT 2,5/..-ST, pitch: 5.08 mm, connection method: Push-in spring 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

## FKCVR 2,5/ 5-ST-5,08 - PCB connector

1873980

https://www.phoenixcontact.com/us/products/1873980

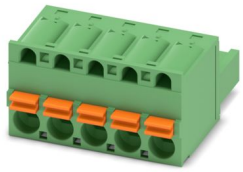


PCB connector, nominal cross section: 2.5 mm$^2$, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: FKCVR 2,5/..-ST, pitch: 5.08 mm, connection method: Push-in spring connection, 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

## FKC 2,5/ 5-ST-5,08 - PCB connector

1873087

https://www.phoenixcontact.com/us/products/1873087



PCB connector, nominal cross section: 2.5 mm$^2$, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: FKC 2,5/..-ST, pitch: 5.08 mm, connection method: Push-in spring 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

## SMSTB 2,5/ 5-ST-5,08 - PCB connector

1826319

https://www.phoenixcontact.com/us/products/1826319

PCB connector, nominal cross section: 2.5 mm$^2$, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: SMSTB 2,5/..-ST, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: -45 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard

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

1809530

https://www.phoenixcontact.com/us/products/1809530

PCB connector, nominal cross section: 2.5 mm$^2$, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, 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 [mm$^2$] 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

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

1808845

https://www.phoenixcontact.com/us/products/1808845

PCB connector, nominal cross section: 2.5 mm$^2$, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, 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 [mm$^2$] 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

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

1792786

https://www.phoenixcontact.com/us/products/1792786

PCB connector, nominal cross section: 2.5 mm$^2$, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, 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

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

1769049

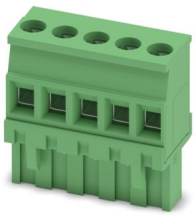
https://www.phoenixcontact.com/us/products/1769049

PCB connector, nominal cross section: 2.5 mm$^2$, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, 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

## MVSTBR 2,5/ 5-ST-5,08 - PCB connector

1792278

https://www.phoenixcontact.com/us/products/1792278

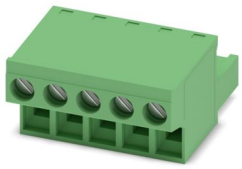


PCB connector, nominal cross section: 2.5 mm$^2$, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: MVSTBR 2,5/..-ST, pitch: 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

## FRONT-MSTB 2,5/ 5-ST-5,08 - PCB connector

1777316

https://www.phoenixcontact.com/us/products/1777316



PCB connector, nominal cross section: 2.5 mm$^2$, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: FRONT-MSTB 2,5/..-ST, pitch: 5.08 mm, connection method: Front screw connection, 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

# DFK-MSTB 2,5/ 5-G-5,08 - Feed-through header

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## MSTBT 2,5/ 5-ST-5,08 - PCB connector

1781014

https://www.phoenixcontact.com/us/products/1781014

PCB connector, nominal cross section: 2.5 mm$^2$, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: MSTBT 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

## MSTB 2,5/ 5-STZ-5,08 - PCB connector

1776142

https://www.phoenixcontact.com/us/products/1776142

PCB connector, nominal cross section: 2.5 mm$^2$, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, 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

# DFK-MSTB 2,5/ 5-G-5,08 - Feed-through header

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## FKCVW 2,5/ 5-ST-5,08 - PCB connector

1873689

https://www.phoenixcontact.com/us/products/1873689

PCB connector, nominal cross section: 2.5 $mm^2$, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: FKCVW 2,5/..-ST, pitch: 5.08 mm, connection method: Push-in spring connection, 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



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