

## Printed-circuit board connector - MSTB 2,5/ 2-STF - 1786831

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PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 2, pitch: 5 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin




The figure shows a 10-position version of the product

### Your advantages

- ✓ Well-known connection principle allows worldwide use
- ✓ Low temperature rise, thanks to maximum contact force
- ✓ Screwable flange for superior mechanical stability
- ✓ Allows connection of two conductors



### Key Commercial Data

|                        |   |
|------------------------|---|
| Packing unit           | 100 pc  |
| Minimum order quantity | 100 pc  |
| GTIN                   | <br>4 017918 042790 |
| GTIN                   | 4017918042790   |

### Technical data

#### Item properties

|                           |                                      |
|---------------------------|--------------------------------------|
| Brief article description | Printed-circuit board connector      |
| Plug-in system            | CLASSIC COMBICON                     |
| Type of contact           | Female connector                     |
| Range of articles         | MSTB 2,5/...-STF                     |
| Pitch                     | 5 mm                                 |
| Number of positions       | 2                                    |
| Connection method         | Screw connection with tension sleeve |
| Drive form screw head     | Slotted (L)                          |
| Screw thread              | M3                                   |
| Locking                   | Screw flange                         |

# Printed-circuit board connector - MSTB 2,5/ 2-STF - 1786831

## Technical data

### Item properties

|                       |   |
|-----------------------|---|
| Number of levels      | 1 |
| Number of connections | 2 |
| Number of potentials  | 2 |

### Electrical parameters

|                             |       |
|-----------------------------|-------|
| Nominal current             | 12 A  |
| Nom. voltage                | 320 V |
| Rated voltage               | 250 V |
| Rated voltage (III/2)       | 320 V |
| Rated voltage (II/2)        | 630 V |
| Rated surge voltage (III/3) | 4 kV  |
| Rated surge voltage (III/2) | 4 kV  |
| Rated surge voltage (II/2)  | 4 kV  |

### Connection capacity

|   |  |
|---|--|
| Connection method   | Screw connection with tension sleeve         |
| pluggable   | Yes  |
| Conductor cross section solid   | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>  |
| Conductor cross section flexible  | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>  |
| Conductor cross section AWG / kcmil   | 24 ... 12                                    |
| Conductor cross section flexible, with ferrule without plastic sleeve                     | 0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross section, flexible, with ferrule, with plastic sleeve                      | 0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| 2 conductors with same cross section, solid   | 0.2 mm <sup>2</sup> ... 1 mm <sup>2</sup>    |
| 2 conductors with same cross section, flexible  | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>  |
| 2 conductors with same cross section, flexible, with ferrule without plastic sleeve       | 0.25 mm <sup>2</sup> ... 1 mm <sup>2</sup>   |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>  |
| Stripping length  | 7 mm   |
| Torque  | 0.5 Nm ... 0.6 Nm                            |

### Flange specifications

|                 |               |
|-----------------|---------------|
| Type of locking | Screw locking |
| Mounting flange | Screw flange  |
| Torque          | 0.3 Nm        |

### 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                  | hot-dip tin-plated  |
| Metal surface terminal point (top layer) | Tin (5 - 7 µm Sn)   |
| Metal surface contact area (top layer)   | Tin (5 - 7 µm Sn)   |

### Material data - housing

# Printed-circuit board connector - MSTB 2,5/ 2-STF - 1786831

## Technical data

### Material data - housing

|   |              |
|---|--------------|
| Housing color   | 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       |

### Dimensions for the product

|                             |          |
|-----------------------------|----------|
| Length [ l ]                | 18.2 mm  |
| Width [ w ]                 | 20.01 mm |
| Height [ h ]                | 15 mm    |
| Pitch                       | 5 mm     |
| Height (without solder pin) | 15 mm    |

### Packaging information

|                            |                     |
|----------------------------|---------------------|
| Type of packaging          | packed in cardboard |
| Pieces per package         | 100                 |
| Denomination packing units | Pcs.                |

### General product information

|      |  |
|------|--|
| Note | 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. |
|------|--|

### 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) |

### Termination and connection method

|  |                     |
|--|---------------------|
| Test for conductor damage and slackening | IEC 60999-1:1999-11 |
|  | Test passed         |

### Pull-out test

|  |  |
|--|--|
| Pull-out test  | IEC 60999-1:1999-11                      |
|  | Test passed                              |
| Conductor cross section / conductor type / tensile force | 0.14 mm <sup>2</sup> / solid / > 10 N    |
|  | 0.14 mm <sup>2</sup> / flexible / > 10 N |
|  | 2.5 mm <sup>2</sup> / solid / > 50 N     |
|  | 2.5 mm <sup>2</sup> / flexible / > 50 N  |

### Mechanical tests according to standard

|                    |           |
|--------------------|-----------|
| Test specification | IEC 61984 |
|--------------------|-----------|

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## Technical data

### Mechanical tests according to standard

|                                     |                        |
|-------------------------------------|------------------------|
| Visual inspection                   | IEC 60512-1-1:2002-02  |
| Dimension check                     | IEC 60512-1-2:2002-02  |
| Resistance of inscriptions          | IEC 60068-2-70:1995-12 |
| Insertion and withdrawal force      | IEC 60512-13-2:2006-02 |
| No. of cycles                       | 25                     |
| Insertion strength per pos. approx. | 8 N                    |
| Withdraw strength per pos. approx.  | 6 N                    |
| Polarization and coding             | IEC 60512-13-5:2006-02 |
| Contact holder in insert            | IEC 60512-15-1:2008-05 |
| Test force per pos.                 | 36 N                   |

### 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)         | 3 mm                |
| Minimum creepage distance value (III/2)         | 3 mm                |
| Minimum creepage distance value (II/2)          | 3.2 mm              |

### Current carrying capacity / derating curves

|                  |   |
|------------------|---|
| Caption          | Type: MSTB 2,5/...-STF with MDSTB 2,5/...-GF  |
| Specification    | IEC 61984:2008-10                             |
| Reduction factor | 0.8   |
| Note             | Representation based on IEC 60512-5-2:2002-02 |
|                  | For number of positions, see diagram          |

### 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>            | 1.7 mΩ                |
| Insertion/withdrawal cycles                  | 25                    |
| Contact resistance R <sub>2</sub>            | 1.7 mΩ                |
| Impulse withstand voltage at sea level       | 4.8 kV                |
| Power-frequency withstand voltage            | 2.21 kV               |
| Insulation resistance, neighboring positions | > 0.3 TΩ              |

## Printed-circuit board connector - MSTB 2,5/ 2-STF - 1786831

### Technical data

#### 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  |
| 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 |

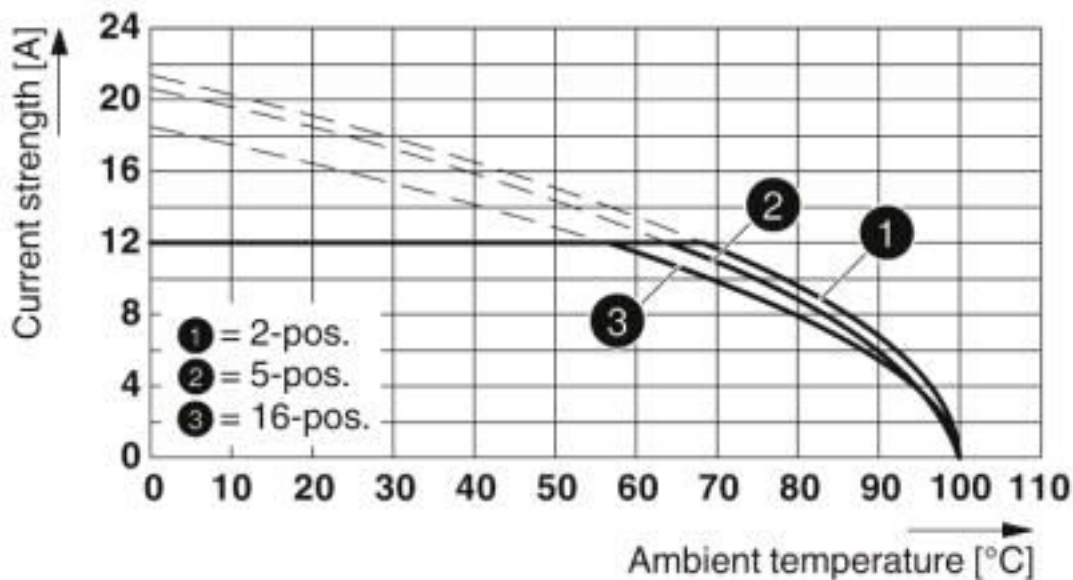
#### Environmental Product Compliance

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

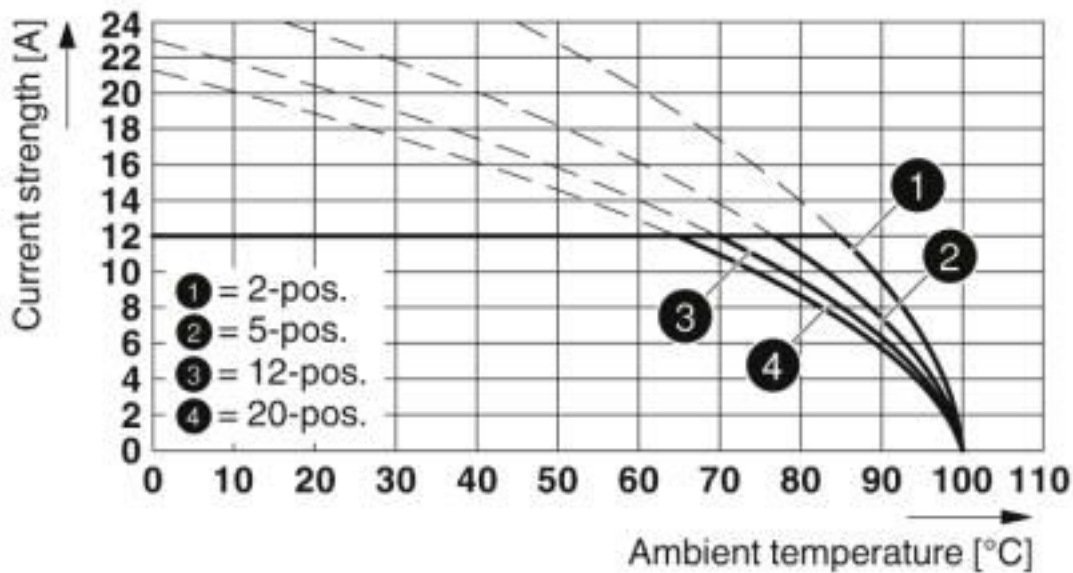
# Printed-circuit board connector - MSTB 2,5/ 2-STF - 1786831

Diagram



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

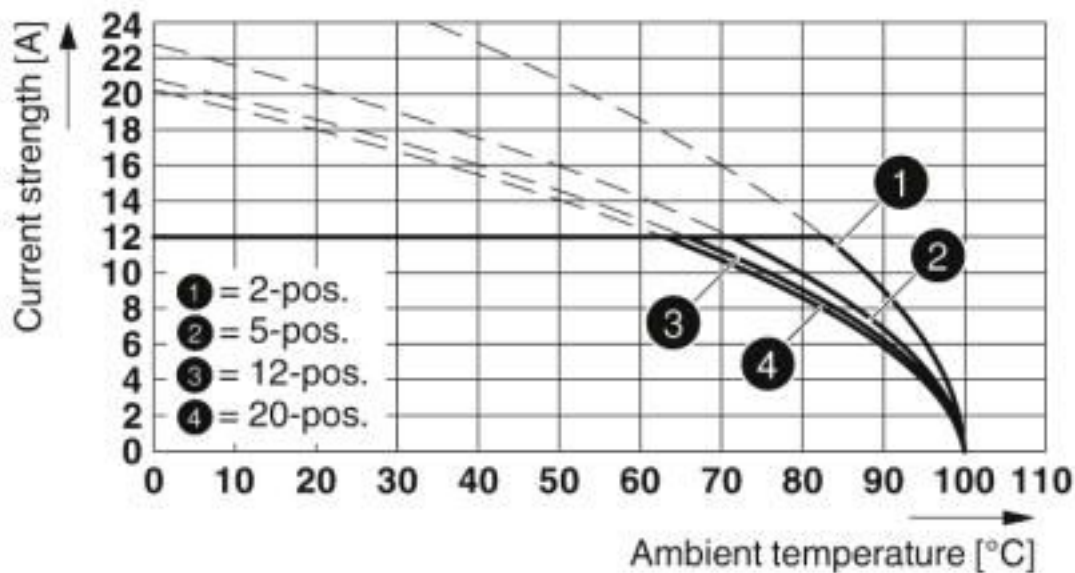
Diagram



Type: MSTB 2,5/...-STF with CC 2,5/...-GF-LR P20 THR

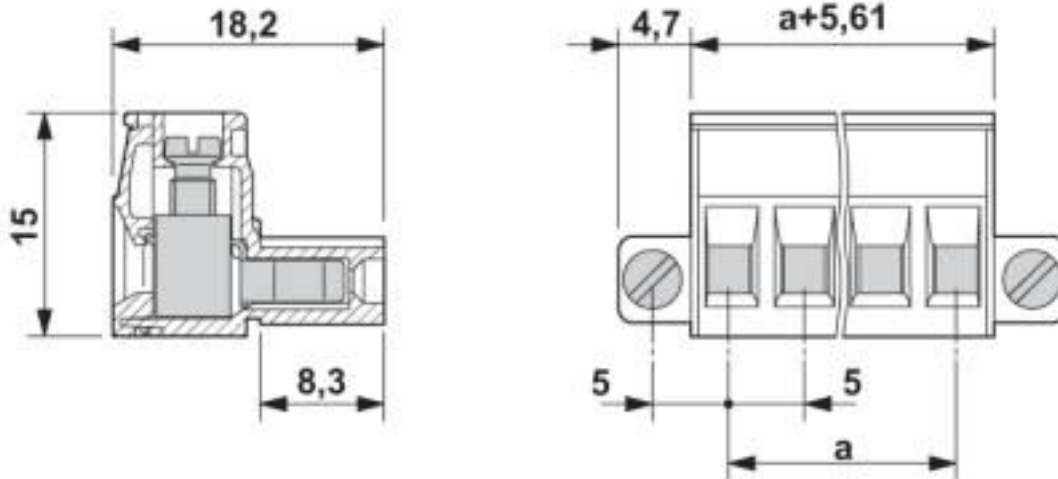
# Printed-circuit board connector - MSTB 2,5/ 2-STF - 1786831

Diagram



Type: MSTB 2,5/...-STF with CCV 2,5/...-GF-LR P20 THR

Dimensional drawing



## Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27440309 |
| 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 |

# Printed-circuit board connector - MSTB 2,5/ 2-STF - 1786831

## Classifications

### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 7.0 | 27440309 |
| eCl@ss 8.0 | 27440309 |
| eCl@ss 9.0 | 27440309 |

### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC001121 |
| ETIM 4.0 | EC002638 |
| ETIM 5.0 | EC002638 |
| ETIM 6.0 | EC002638 |
| ETIM 7.0 | EC002638 |

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30211810 |
| UNSPSC 7.0901 | 39121409 |
| UNSPSC 11     | 39121409 |
| UNSPSC 12.01  | 39121409 |
| UNSPSC 13.2   | 39121409 |
| UNSPSC 18.0   | 39121409 |
| UNSPSC 19.0   | 39121409 |
| UNSPSC 20.0   | 39121409 |
| UNSPSC 21.0   | 39121409 |

## Approvals

### Approvals

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### Approvals

DNV GL / CSA / RS / IEC CB Scheme / EAC / cULus Recognized / VDE Zeichengenehmigung

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### Ex Approvals

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### Approval details

|        |  |   |            |
|--------|--|---|------------|
| DNV GL |  | <a href="https://approvalfinder.dnvgl.com/">https://approvalfinder.dnvgl.com/</a> | TAE00001EY |
|--------|--|---|------------|



# Printed-circuit board connector - MSTB 2,5/ 2-STF - 1786831

## Approvals

|                            |       |   |                 |
|----------------------------|-------|---|-----------------|
| CSA                        |       | <a href="http://www.csagroup.org/services-industries/product-listing/">http://www.csagroup.org/services-industries/product-listing/</a> | LR13631-2585950 |
|                            | B     | D   |                 |
| Nominal voltage UN         | 300 V | 300 V   |                 |
| Nominal current IN         | 15 A  | 10 A  |                 |
| mm <sup>2</sup> /AWG/kcmil | 28-12 | 28-12   |                 |

|    |  |   |              |
|----|--|---|--------------|
| RS |  | <a href="http://www.rs-head.spb.ru/en/index.php">http://www.rs-head.spb.ru/en/index.php</a> | 17.00014.272 |
|----|--|---|--------------|

|                            |         |   |                |
|----------------------------|---------|---|----------------|
| 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         | 12 A    |   |                |
| mm <sup>2</sup> /AWG/kcmil | 0.2-2.5 |   |                |

|     |  |         |
|-----|--|---------|
| 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 | 300 V   |                 |
| Nominal current IN         | 15 A  | 10 A  |                 |
| mm <sup>2</sup> /AWG/kcmil | 30-12 | 30-12   |                 |

|                            |         |   |          |
|----------------------------|---------|---|----------|
| 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> | 40004701 |
| Nominal voltage UN         | 250 V   |   |          |
| Nominal current IN         | 12 A    |   |          |
| mm <sup>2</sup> /AWG/kcmil | 0.2-2.5 |   |          |

## Printed-circuit board connector - MSTB 2,5/ 2-STF - 1786831

### Accessories

#### Accessories

#### Bridge

Insertion bridge - EBP 2- 5 - 1733169



Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch

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### Cable housing

Cable housing - KGG-MSTB 2,5/ 2 - 1803934



Cable housing, pitch: 0 mm, number of positions: 2, color: green

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### Coding element

Coding profile - CP-MSTB - 1734634



Coding profile, is inserted into the slot on the plug or inverted header, red insulating material

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### Labeled terminal marker

Marker card - SK 5/3,8:FORTL.ZAHLEN - 0804183



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 mm, lettering field size: 5 x 3.8 mm

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### Screwdriver tools

# Printed-circuit board connector - MSTB 2,5/ 2-STF - 1786831

## Accessories

Screwdriver - SZS 0,6X3,5 - 1205053



Actuation tool, for ST terminal blocks, insulated, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

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## Additional products

Feed-through header - MSTB 2,5/ 2-GF - 1776692

PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 2, pitch: 5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm



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Feed-through header - MSTBV 2,5/ 2-GF - 1776883

PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 2, pitch: 5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm



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Feed-through header - MDSTBV 2,5/ 2-GF - 1846085

PCB headers, nominal current: 10 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 2, pitch: 5 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!



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Feed-through header - MDSTB 2,5/ 2-GF - 1846690

PCB headers, nominal current: 10 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 2, pitch: 5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.2 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!



## Printed-circuit board connector - MSTB 2,5/ 2-STF - 1786831

### Accessories

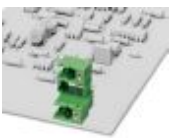
#### Feed-through header - MDSTB 2,5/ 2-GFL - 1877740



PCB headers, nominal current: 10 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 2, pitch: 5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.2 mm, Can be aligned! Mounting flange: Order no. 1736771, 1736768. In combination with MVSTB or FKCV plugs, both an MVSTBW (or FKCVW) and an MVSTBR plug (or FKCVR) must be used. Combination with TMSTBP plugs is not possible!

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#### Feed-through header - MDSTB 2,5/ 2-GFR - 1877753



PCB headers, nominal current: 10 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 2, pitch: 5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.2 mm, Can be aligned! Mounting flange: Order no. 1736771, 1736768. In combination with MVSTB or FKCV plugs, both an MVSTBW (or FKCVW) and an MVSTBR plug (or FKCVR) must be used. Combination with TMSTBP plugs is not possible!

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#### Feed-through header - MDSTBV 2,5/ 2-GFL - 1877766



PCB headers, nominal current: 10 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 2, pitch: 5 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!

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#### Feed-through header - MDSTBV 2,5/ 2-GFR - 1877779



PCB headers, nominal current: 10 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 2, pitch: 5 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!

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