

# Feed-through header - GMSTB 2,5/10-GF-7,62 - 1806300

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PCB headers, nominal current: 12 A, rated voltage (III/2): 630 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 10, pitch: 7.62 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.2 mm




## Your advantages

- Plug-in direction parallel to the PCB
- Headers with angled solder pins for 630 V applications (III/2)
- Maximum flexibility when it comes to device design – one header for connectors with different connection technologies
- Well-known mounting principle allows worldwide use
- Larger pitch for increased voltage requirements



## Key Commercial Data

|              |                                                                                                         |
|--------------|---------------------------------------------------------------------------------------------------------|
| Packing unit | 50 pc                                                                                                   |
| GTIN         | <br>4 017918 046972 |
| GTIN         | 4017918046972                                                                                           |

## Technical data

### Item properties

|                           |                     |
|---------------------------|---------------------|
| Brief article description | Feed-through header |
| Plug-in system            | CLASSIC COMBICON    |
| Type of contact           | Male connector      |
| Range of articles         | GMSTB 2,5/..-GF     |
| Pitch                     | 7.62 mm             |
| Number of positions       | 10                  |
| Mounting type             | Wave soldering      |
| Pin layout                | Linear pinning      |
| Locking                   | Threaded flange     |
| Number of levels          | 1                   |
| Number of connections     | 10                  |

# Feed-through header - GMSTB 2,5/10-GF-7,62 - 1806300

## Technical data

### Item properties

|                      |    |
|----------------------|----|
| Number of potentials | 10 |
|----------------------|----|

### Electrical parameters

|                             |       |
|-----------------------------|-------|
| Nominal current             | 12 A  |
| Nom. voltage                | 630 V |
| Rated voltage               | 400 V |
| Rated voltage (III/2)       | 630 V |
| Rated voltage (II/2)        | 630 V |
| Rated surge voltage (III/3) | 6 kV  |
| Rated surge voltage (III/2) | 6 kV  |
| Rated surge voltage (II/2)  | 6 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 (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)                                                            |

### 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 ]                | 12 mm    |
| Width [ w ]                 | 86.78 mm |
| Height [ h ]                | 11.8 mm  |
| Pitch                       | 7.62 mm  |
| Height (without solder pin) | 8.6 mm   |
| Solder pin [P]              | 3.2 mm   |
| Pin dimensions              | 1 x 1 mm |

### Dimensions for PCB design

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

## Feed-through header - GMSTB 2,5/10-GF-7,62 - 1806300

### Technical data

#### Packaging information

|                            |                     |
|----------------------------|---------------------|
| Type of packaging          | packed in cardboard |
| Pieces per package         | 50                  |
| 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. |
|      | 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. |

#### 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) | 5.5 mm              |
| Minimum clearance - inhomogeneous field (III/2) | 5.5 mm              |
| Minimum clearance - inhomogeneous field (II/2)  | 5.5 mm              |
| Minimum creepage distance value (III/3)         | 5 mm                |
| Minimum creepage distance value (III/2)         | 3.2 mm              |
| Minimum creepage distance value (II/2)          | 3.2 mm              |

#### Mechanical tests (A)

|                                              |             |
|----------------------------------------------|-------------|
| Test specification                           | IEC 61984   |
| Insertion strength per pos. approx.          | 10 N        |
| Withdraw strength per pos. approx.           | 8 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 $R_1$                     | 2.2 m $\Omega$        |
| Insertion/withdrawal cycles                  | 25                    |
| Contact resistance $R_2$                     | 2.2 m $\Omega$        |
| Impulse withstand voltage at sea level       | 7.3 kV                |
| Power-frequency withstand voltage            | 3.31 kV               |
| Insulation resistance, neighboring positions | > 24 G $\Omega$       |

#### 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                                    | 12 A                  |
| Upper limiting temperature requirements <100 °C | Test passed           |

## Feed-through header - GMSTB 2,5/10-GF-7,62 - 1806300

### Technical data

#### Climatic tests (D)

|                                        |                                                                           |
|----------------------------------------|---------------------------------------------------------------------------|
| Specification                          | ISO 6988:1985-02                                                          |
| Cold stress                            | -40 °C/2 h                                                                |
| Thermal stress                         | 105 °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 | 7.3 kV                                                                    |
| Power-frequency withstand voltage      | 3.31 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 |
|                                        | CSA    |
| Flammability rating according to UL 94 | V0     |

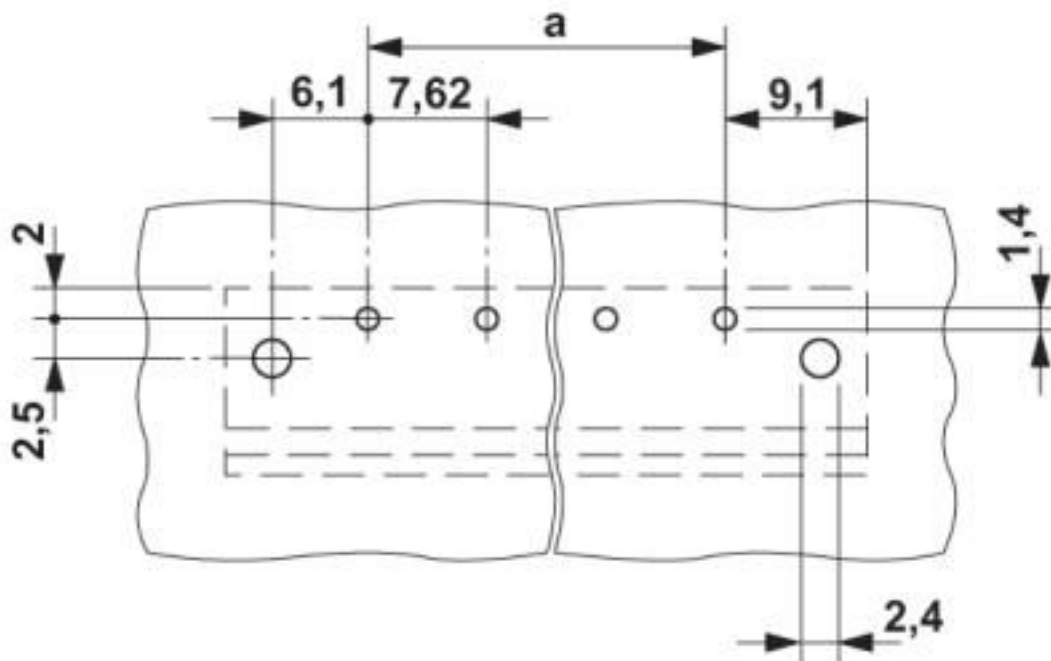
#### Environmental Product Compliance

|            |                                                                                                     |
|------------|-----------------------------------------------------------------------------------------------------|
| 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" |

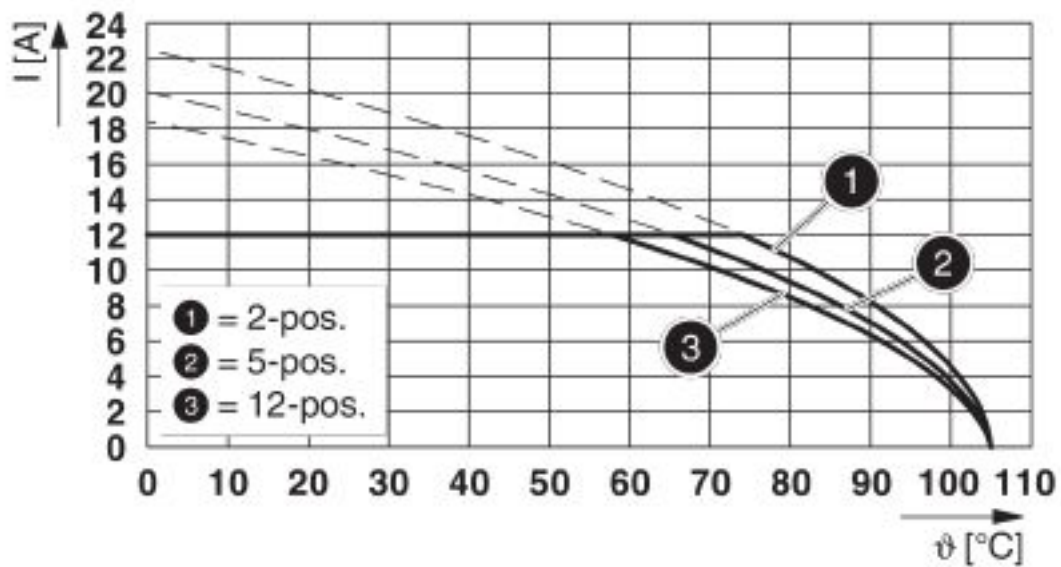
### Drawings

# Feed-through header - GMSTB 2,5/10-GF-7,62 - 1806300

Drilling diagram



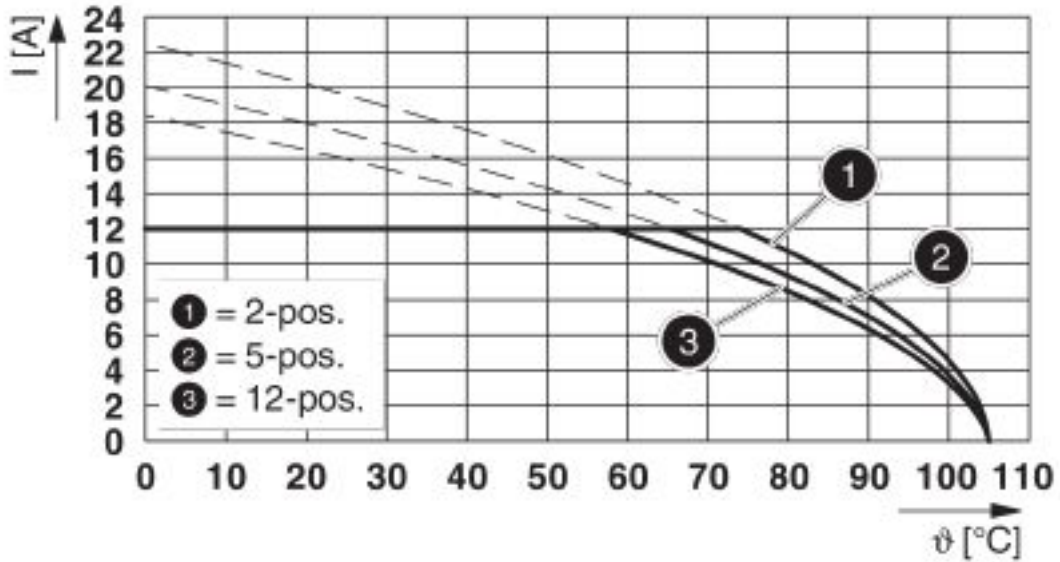
Diagram



Type: GMVSTBR 2,5/...-STF-7,62 with GMSTB 2,5/...-GF-7,62

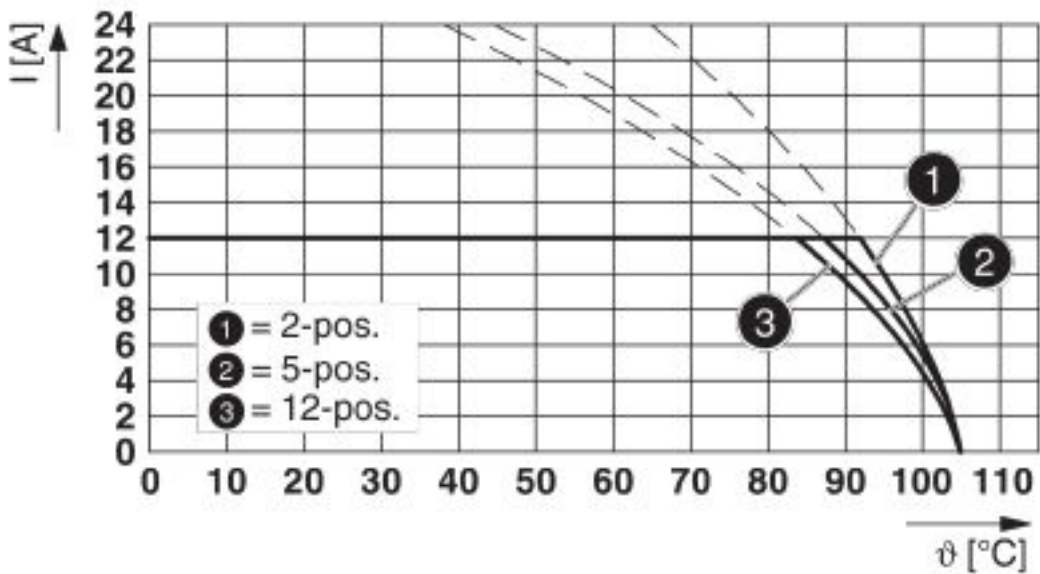
# Feed-through header - GMSTB 2,5/10-GF-7,62 - 1806300

Diagram



Type: GMVSTBW 2,5/...-STF-7,62 with GMSTB 2,5/...-GF-7,62

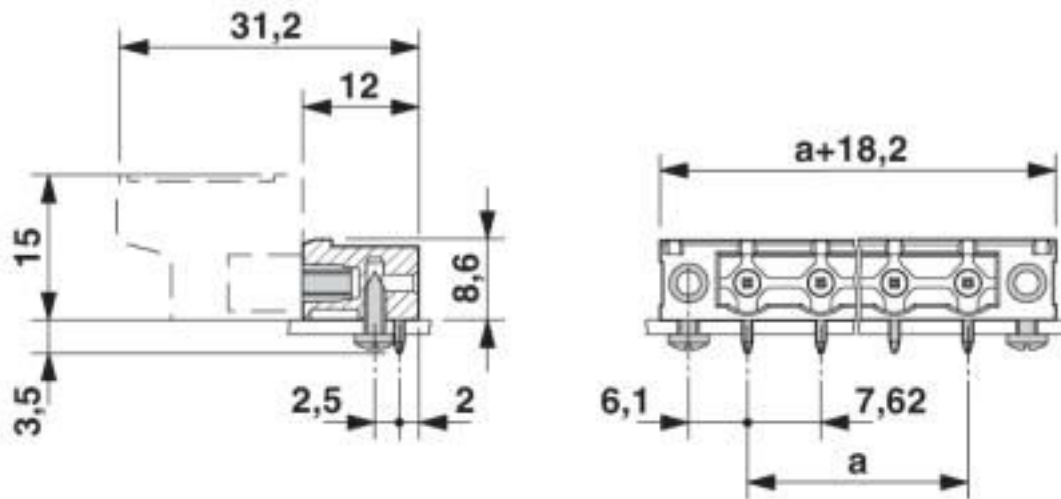
Diagram



Type: GFKC 2,5/...-STF-7,62 with GMSTB 2,5/...-GF-7,62

# Feed-through header - GMSTB 2,5/10-GF-7,62 - 1806300

Dimensional drawing



## 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 |
| UNSPSC 13.2   | 39121409 |
| UNSPSC 18.0   | 39121409 |
| UNSPSC 19.0   | 39121409 |

# Feed-through header - GMSTB 2,5/10-GF-7,62 - 1806300

## Classifications

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 20.0 | 39121409 |
| UNSPSC 21.0 | 39121409 |

## Approvals

### Approvals

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### Approvals

CSA / IECCEB CB Scheme / EAC / cULus Recognized / VDE Zeichengenehmigung

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### Ex Approvals

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### Approval details

|                    |       |                                                                                                                                         |                 |
|--------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| 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 | 10 A  | 10 A                                                                                                                                    |                 |

|                    |       |                                                           |                |
|--------------------|-------|-----------------------------------------------------------|----------------|
| IECEE CB Scheme    |       | <a href="http://www.iecee.org/">http://www.iecee.org/</a> | DE1-60988-B1B2 |
| Nominal voltage UN | 400 V |                                                           |                |
| Nominal current IN | 12 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> | E60425-19931013 |
|                    | B     | D                                                                                                                                                     |                 |
| Nominal voltage UN | 300 V | 300 V                                                                                                                                                 |                 |
| Nominal current IN | 15 A  | 10 A                                                                                                                                                  |                 |



# Feed-through header - GMSTB 2,5/10-GF-7,62 - 1806300

## Approvals

|                        |  |                                                                                                                                                                                                           |          |
|------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| 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     |  | 400 V                                                                                                                                                                                                     |          |
| Nominal current IN     |  | 12 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



#### Filler plug

Accessories - MSTB-BL - 1755477



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

#### Labeled terminal marker

Marker card - SK 7,62/3,8:FORTL.ZAHLEN - 0804549

Marker card, Card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: adhesive, for terminal block width: 7.62 mm, lettering field size: 7.62 x 3.8 mm



## Additional products

## Feed-through header - GMSTB 2,5/10-GF-7,62 - 1806300

### Accessories

#### Printed-circuit board connector - FRONT-GMSTB 2,5/10-STF-7,62 - 1806083

PCB connector, nominal current: 12 A, rated voltage (III/2): 630 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 10, pitch: 7.62 mm, connection method: Front screw connection, color: green, contact surface: Tin



#### Printed-circuit board connector - GMVSTBR 2,5/10-STF-7,62 - 1847961

PCB connector, nominal current: 12 A, rated voltage (III/2): 630 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 10, pitch: 7.62 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin



#### Printed-circuit board connector - GMVSTBW 2,5/10-STF-7,62 - 1848070

PCB connector, nominal current: 12 A, rated voltage (III/2): 630 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 10, pitch: 7.62 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin



#### Printed-circuit board connector - GMSTB 2,5/10-STF-7,62 - 1858840

PCB connector, nominal current: 12 A, rated voltage (III/2): 630 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 10, pitch: 7.62 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin



#### Printed-circuit board connector - GFKC 2,5/10-STF-7,62 - 1939824

PCB connector, nominal current: 12 A, rated voltage (III/2): 630 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 10, pitch: 7.62 mm, connection method: Push-in spring connection, color: green, contact surface: Tin, COMBICON connectors may only be activated under no load conditions. If for operating reasons small loads must be switched, experimental values are available upon request.



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