

SMSTBA 2,5/13-G - PCB header



1769913

<https://www.phoenixcontact.com/us/products/1769913>

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: Tin, contact connection type: Pin, number of potentials: 13, number of rows: 1, number of positions: 13, number of connections: 13, product range: SMSTBA 2,5/...-G, pitch: 5 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 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

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
- Angled connection enables multi-row arrangement on the PCB

Commercial data

| | |
|--------------------------------------|--------------------------------|
| Item number | 1769913 |
| Packing unit | 1 pc |
| Minimum order quantity | 50 pc |
| Note | Made to order (non-returnable) |
| Sales key | AA03 |
| Product key | AACSGO |
| Catalog page | Page 319 (C-1-2013) |
| GTIN | 4017918035136 |
| Weight per piece (including packing) | 9.27 g |
| Weight per piece (excluding packing) | 8.604 g |
| Customs tariff number | 85366930 |
| Country of origin | DE |

SMSTBA 2,5/13-G - PCB header



1769913

<https://www.phoenixcontact.com/us/products/1769913>

Technical data

Product properties

| | |
|---------------------------|-----------------------|
| Type | Standard |
| Product line | COMBICON Connectors M |
| Product type | PCB headers |
| Product family | SMSTBA 2,5/..-G |
| Number of positions | 13 |
| Pitch | 5 mm |
| Number of connections | 13 |
| Number of rows | 1 |
| Mounting flange | without |
| Number of potentials | 13 |
| Pin layout | Linear pinning |
| Solder pins per potential | 1 |

Electrical properties

| | |
|-----------------------------|----------------|
| Nominal current I_N | 12 A |
| Nominal voltage U_N | 320 V |
| Degree of pollution | 3 |
| Contact resistance | 2.3 m Ω |
| 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 | 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 (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

SMSTBA 2,5/13-G - PCB header

1769913

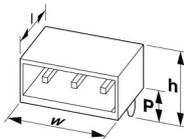
<https://www.phoenixcontact.com/us/products/1769913>

| | |
|---|--------------|
| 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 mm |
| Width [w] | 67 mm |
| Height [h] | 18.3 mm |
| Length [l] | 16.5 mm |
| Installed height | 14.8 mm |
| Solder pin length [P] | 3.5 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 |

SMSTBA 2,5/13-G - PCB header



1769913

<https://www.phoenixcontact.com/us/products/1769913>

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 Requirements >20 N | Test passed |

Insertion and withdrawal forces

| | |
|-------------------------------------|-------------|
| Result | Test passed |
| No. of cycles | 25 |
| Insertion strength per pos. approx. | 11 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 | 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) | 1.6 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 |

SMSTBA 2,5/13-G - PCB header



1769913

<https://www.phoenixcontact.com/us/products/1769913>

| | |
|------------------------|-----------------------------|
| Sweep speed | 1 octave/min |
| Amplitude | 0.35 mm (10 Hz ... 60.1 Hz) |
| Sweep speed | 5g (60.1 Hz ... 150 Hz) |
| Test duration per axis | 2.5 h |

Durability test

| | |
|--|-----------------------|
| Specification | IEC 60512-9-1:2010-03 |
| Impulse withstand voltage at sea level | 4.8 kV |
| Contact resistance R ₁ | 2.3 mΩ |
| Contact resistance R ₂ | 2.4 mΩ |
| Insertion/withdrawal cycles | 25 |

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 |

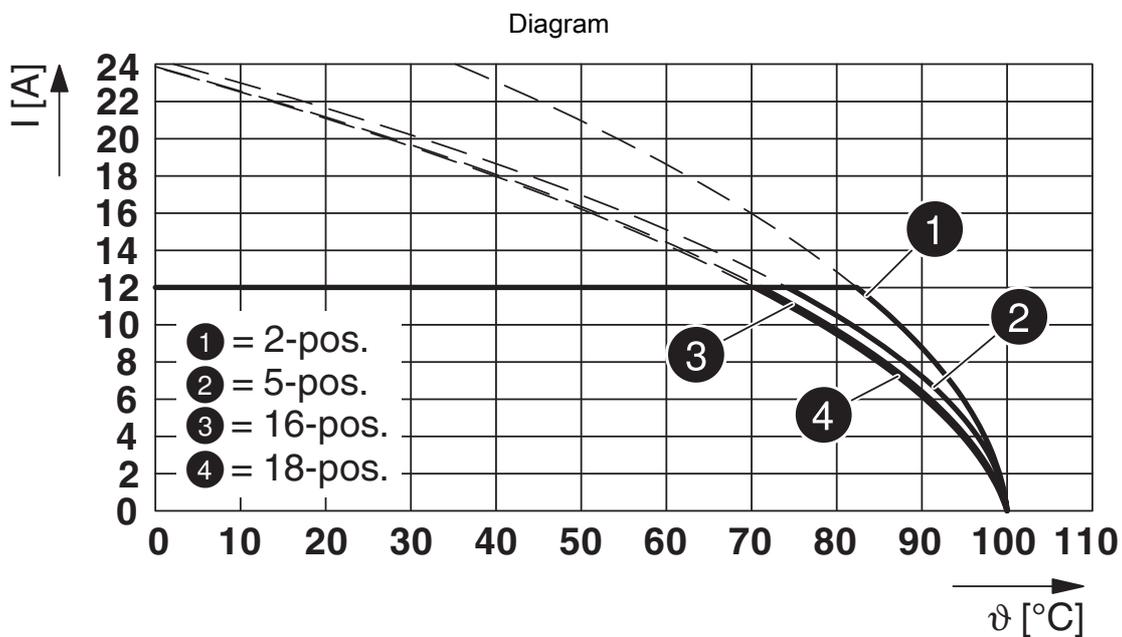
Ambient conditions

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

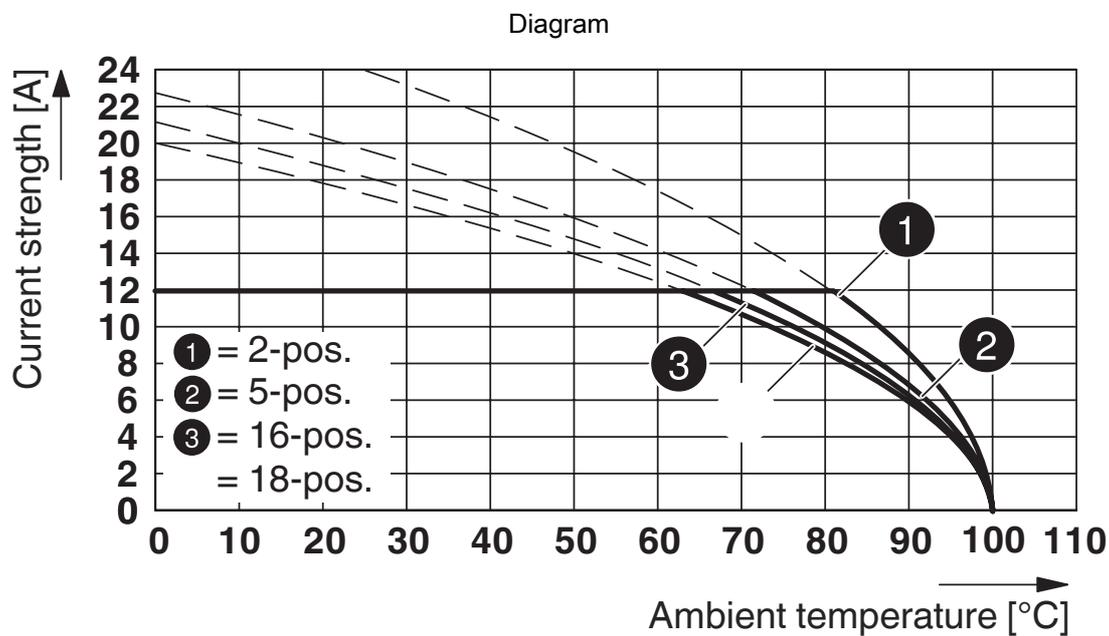
Packaging specifications

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

Drawings



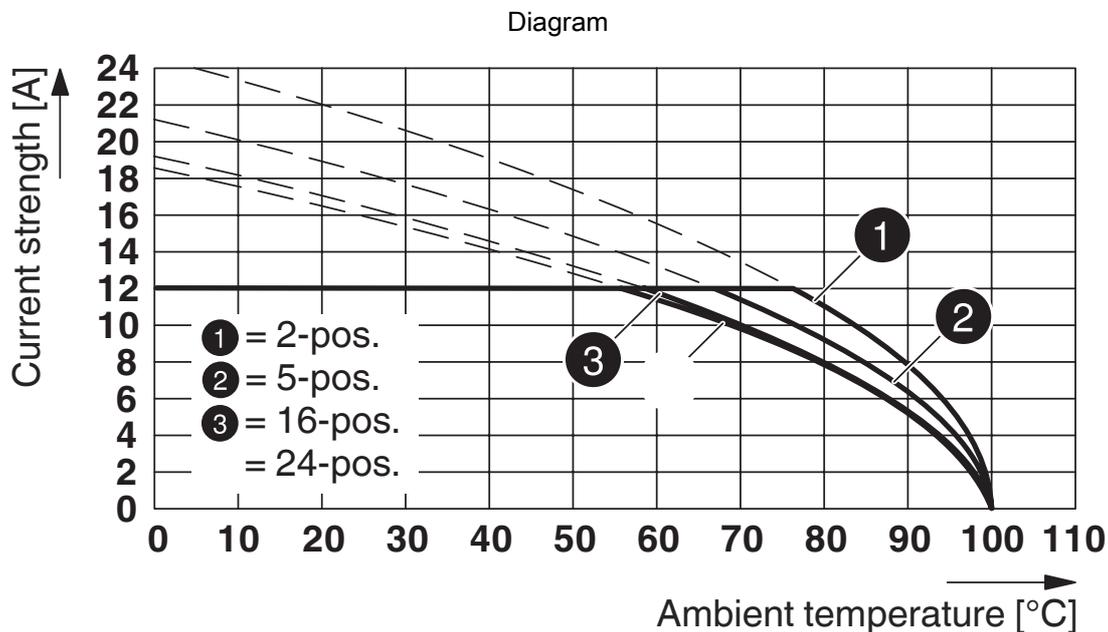
Type: FKCN 2,5/...-ST with SMSTBA 2,5/...-G



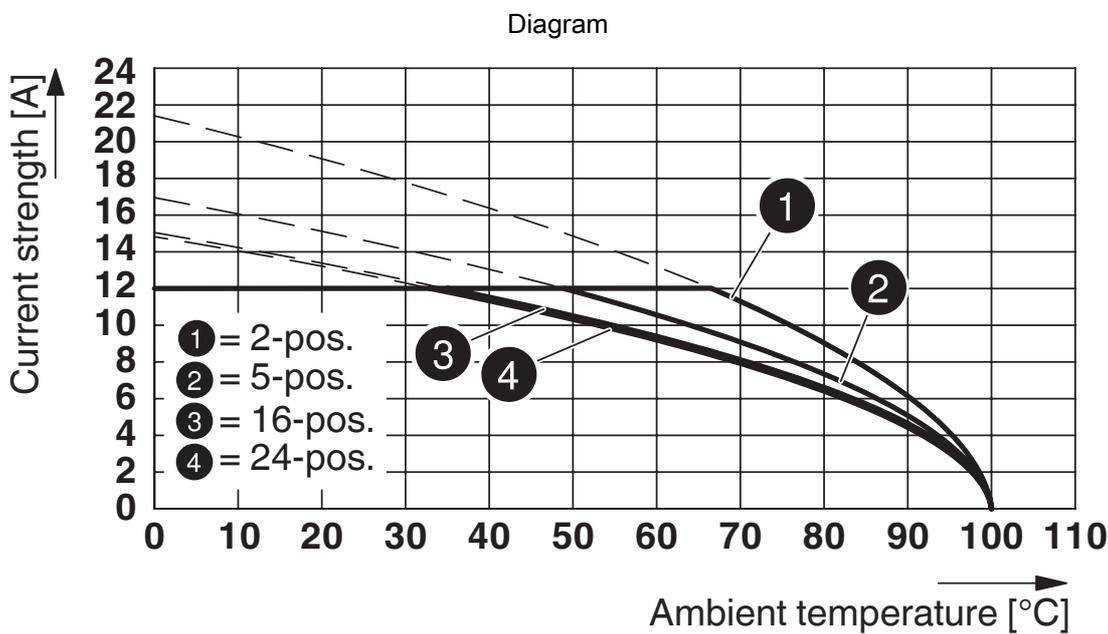
Type: MSTBT 2,5/...-ST with SMSTBA 2,5/...-G

1769913

<https://www.phoenixcontact.com/us/products/1769913>



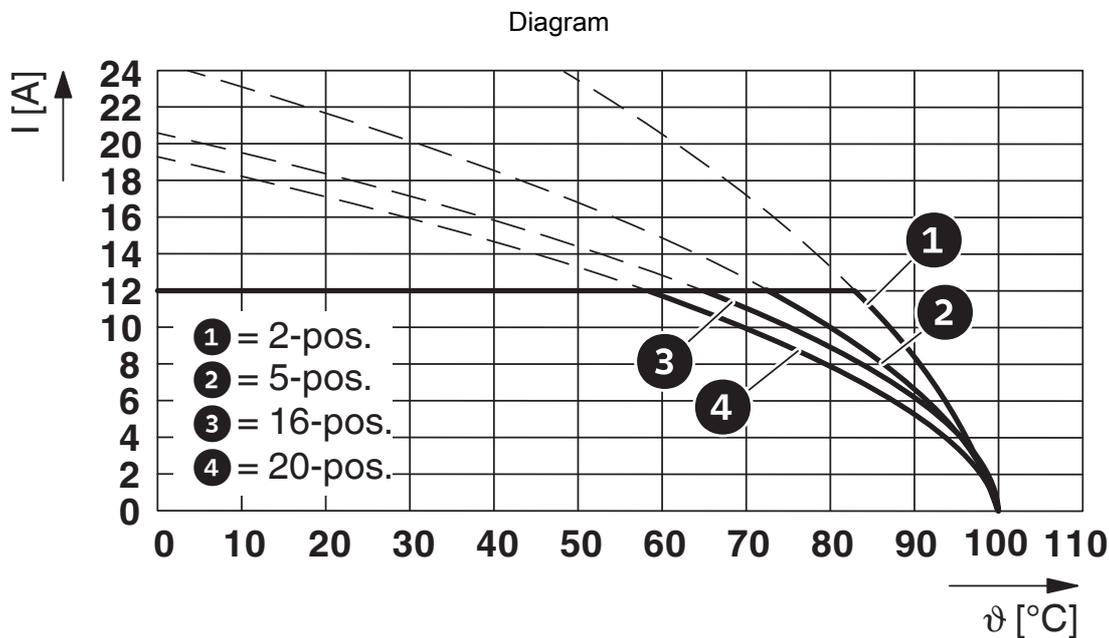
Type: FRONT-MSTB 2,5/...-ST with SMSTBA 2,5/...-G



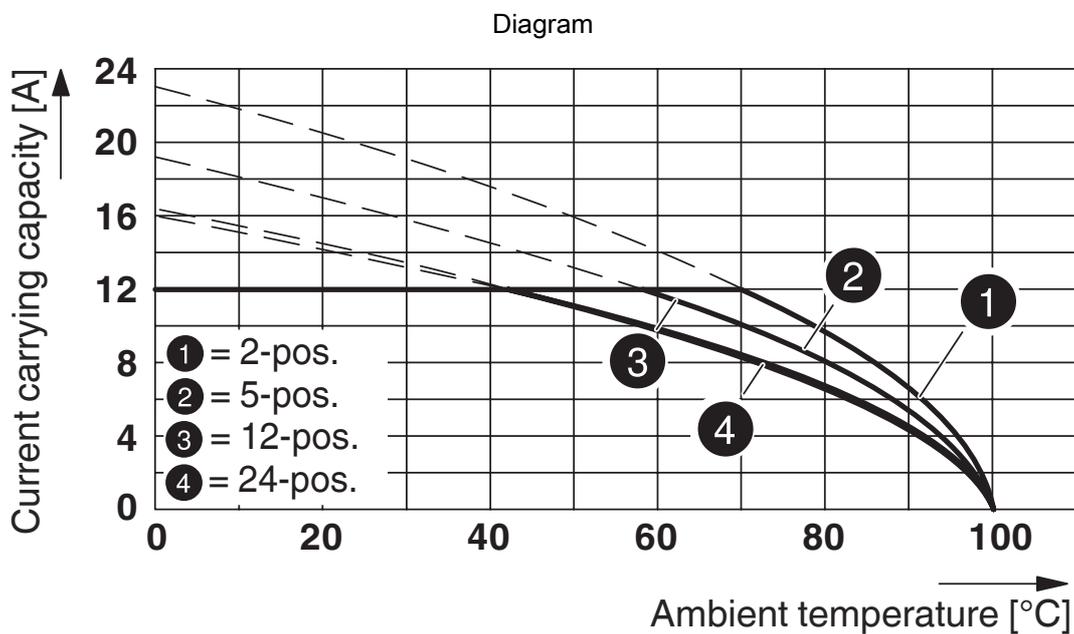
Type: MVSTB(R/W) 2,5/...-ST with SMSTBA 2,5/...-G

1769913

<https://www.phoenixcontact.com/us/products/1769913>



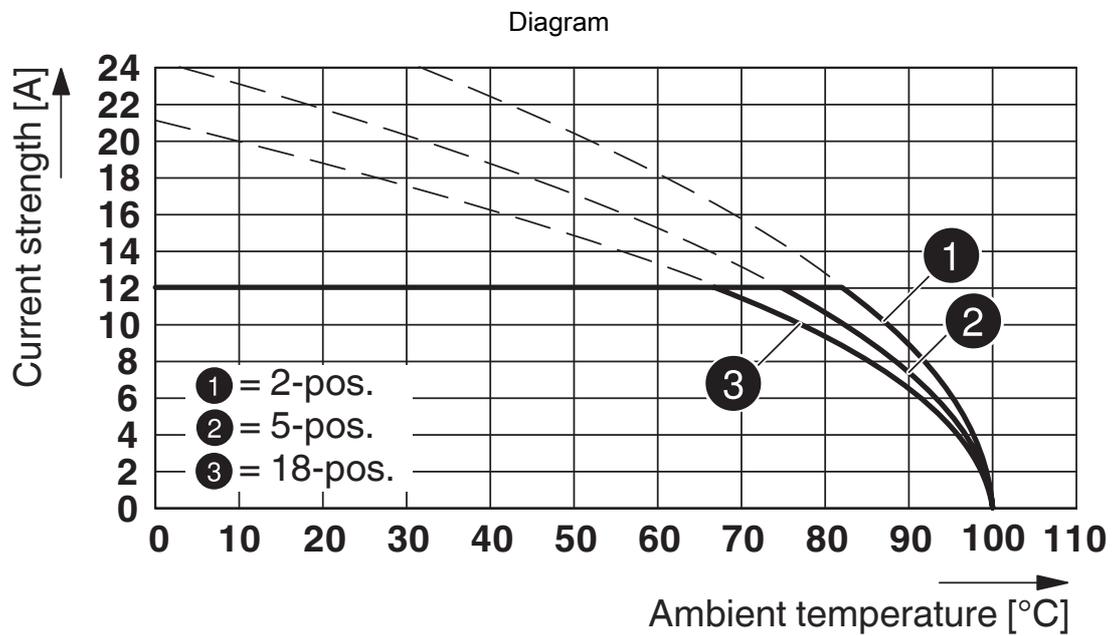
Type: FKCT 2,5/...-ST with SMSTBA 2,5/...-G



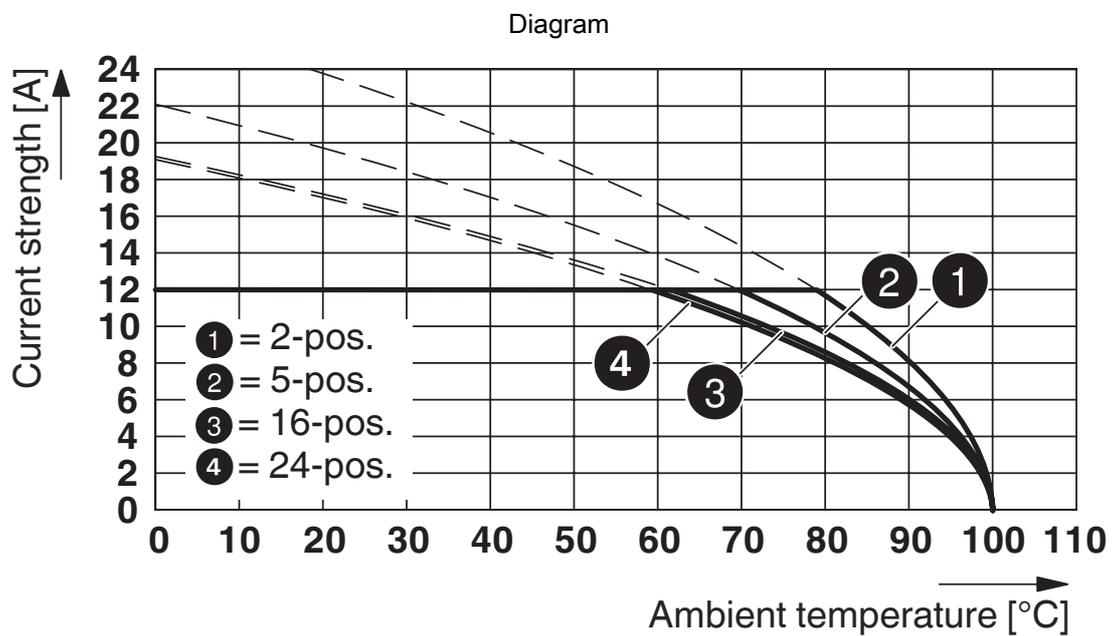
Type: SMSTB 2,5/...-ST with SMSTBA 2,5/...-G

1769913

<https://www.phoenixcontact.com/us/products/1769913>



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



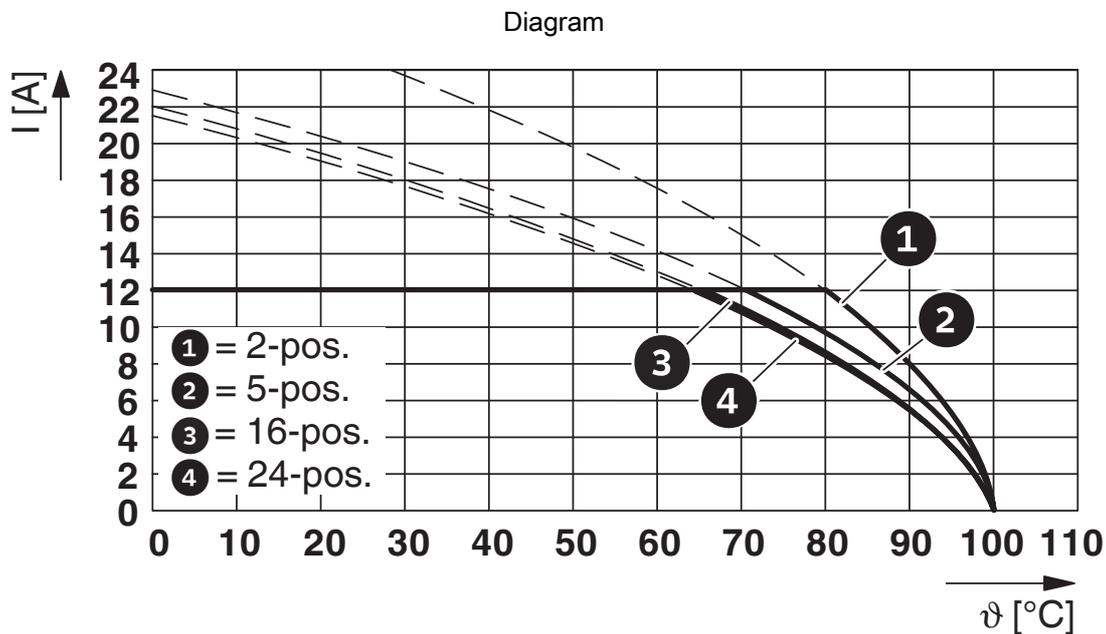
Type: MSTB 2,5/...-ST with SMSTBA 2,5/...-G

SMSTBA 2,5/13-G - PCB header

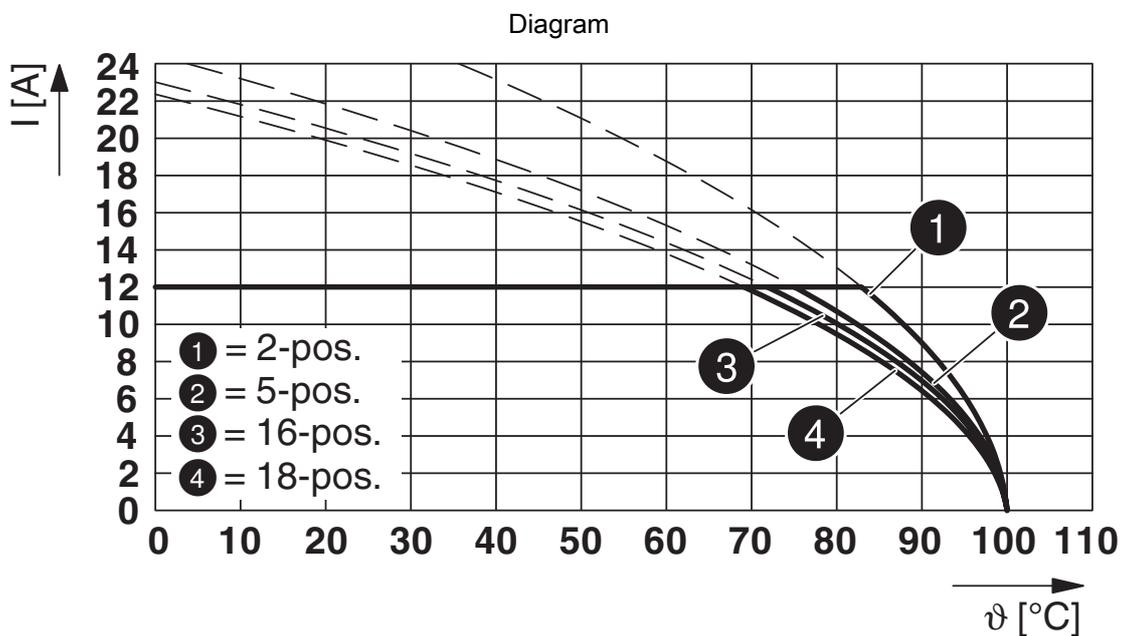


1769913

<https://www.phoenixcontact.com/us/products/1769913>



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



Type: FKCV(W/R) 2,5/...-ST with SMSTBA 2,5/...-G

SMSTBA 2,5/13-G - PCB header



1769913

<https://www.phoenixcontact.com/us/products/1769913>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1769913>

|  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 | - | - |

|  EAC Approval ID: B.01687 | | | | |
|--|--|--|--|--|
|--|--|--|--|--|

|  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 | - | - |

SMSTBA 2,5/13-G - PCB header



1769913

<https://www.phoenixcontact.com/us/products/1769913>

Classifications

ECLASS

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

ETIM

| | |
|----------|----------|
| ETIM 8.0 | EC002637 |
|----------|----------|

UNSPSC

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

SMSTBA 2,5/13-G - PCB header



1769913

<https://www.phoenixcontact.com/us/products/1769913>

Environmental product compliance

| | |
|------------|---|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
| | No hazardous substances above threshold values |

SMSTBA 2,5/13-G - PCB header

1769913

<https://www.phoenixcontact.com/us/products/1769913>



Accessories

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

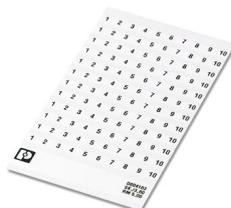


SK 5/3,8:FORTL.ZAHLEN - Marker card

0804183

<https://www.phoenixcontact.com/us/products/0804183>

Marker 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



SMSTBA 2,5/13-G - PCB header

1769913

<https://www.phoenixcontact.com/us/products/1769913>



MSTB-BL - Accessories

1755477

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

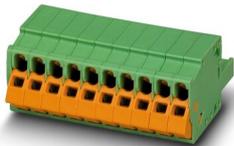


Keying cap, for forming sections, plugs onto header pin, green insulating material

QC 1,5/13-ST - PCB connector

1718070

<https://www.phoenixcontact.com/us/products/1718070>



PCB connector, nominal cross section: 1.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 630 V, contact surface: Tin, contact connection type: Socket, number of potentials: 13, number of rows: 1, number of positions: 13, number of connections: 13, product range: QC 1,5/..-ST, pitch: 5 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

SMSTBA 2,5/13-G - PCB header

1769913

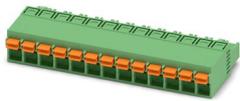
<https://www.phoenixcontact.com/us/products/1769913>



FKCN 2,5/13-ST - PCB connector

1732849

<https://www.phoenixcontact.com/us/products/1732849>



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 13, number of rows: 1, number of positions: 13, number of connections: 13, product range: FKCN 2,5/..-ST, pitch: 5 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

MSTB 2,5/13-ST - PCB connector

1754669

<https://www.phoenixcontact.com/us/products/1754669>



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 13, number of rows: 1, number of positions: 13, number of connections: 13, product range: MSTB 2,5/..-ST, pitch: 5 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

SMSTBA 2,5/13-G - PCB header

1769913

<https://www.phoenixcontact.com/us/products/1769913>



MSTB 2,5/13-STZ - PCB connector

1759363

<https://www.phoenixcontact.com/us/products/1759363>



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 13, number of rows: 1, number of positions: 13, number of connections: 13, product range: MSTB 2,5/...-STZ, pitch: 5 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

MSTBP 2,5/13-ST - PCB connector

1765881

<https://www.phoenixcontact.com/us/products/1765881>



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 13, number of rows: 1, number of positions: 13, number of connections: 13, product range: MSTBP 2,5/...-ST, pitch: 5 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

SMSTBA 2,5/13-G - PCB header

1769913

<https://www.phoenixcontact.com/us/products/1769913>



SMSTB 2,5/13-ST - PCB connector

1768862

<https://www.phoenixcontact.com/us/products/1768862>



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 13, number of rows: 1, number of positions: 13, number of connections: 13, product range: SMSTB 2,5/...-ST, pitch: 5 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

FRONT-MSTB 2,5/13-ST - PCB connector

1779521

<https://www.phoenixcontact.com/us/products/1779521>



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 13, number of rows: 1, number of positions: 13, number of connections: 13, product range: FRONT-MSTB 2,5/...-ST, pitch: 5 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

SMSTBA 2,5/13-G - PCB header

1769913

<https://www.phoenixcontact.com/us/products/1769913>



MSTBT 2,5/13-ST - PCB connector

1779945

<https://www.phoenixcontact.com/us/products/1779945>

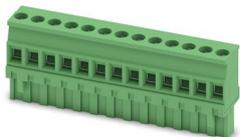


PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 13, number of rows: 1, number of positions: 13, number of connections: 13, product range: MSTBT 2,5/..-ST, pitch: 5 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 2,5/13-ST - PCB connector

1792126

<https://www.phoenixcontact.com/us/products/1792126>



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 13, number of rows: 1, number of positions: 13, number of connections: 13, product range: MVSTBR 2,5/..-ST, pitch: 5 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

SMSTBA 2,5/13-G - PCB header

1769913

<https://www.phoenixcontact.com/us/products/1769913>



MVSTBW 2,5/13-ST - PCB connector

1792634

<https://www.phoenixcontact.com/us/products/1792634>



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 13, number of rows: 1, number of positions: 13, number of connections: 13, product range: MVSTBW 2,5/..-ST, pitch: 5 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

FKCT 2,5/13-ST - PCB connector

1909320

<https://www.phoenixcontact.com/us/products/1909320>



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 13, number of rows: 1, number of positions: 13, number of connections: 13, product range: FKCT 2,5/..-ST, pitch: 5 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

SMSTBA 2,5/13-G - PCB header

1769913

<https://www.phoenixcontact.com/us/products/1769913>



FKCVR 2,5/13-ST - PCB connector

1909825

<https://www.phoenixcontact.com/us/products/1909825>



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 13, number of rows: 1, number of positions: 13, number of connections: 13, product range: FKCVR 2,5/...-ST, pitch: 5 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

FKCVW 2,5/13-ST - PCB connector

1910144

<https://www.phoenixcontact.com/us/products/1910144>



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 13, number of rows: 1, number of positions: 13, number of connections: 13, product range: FKCVW 2,5/...-ST, pitch: 5 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

SMSTBA 2,5/13-G - PCB header

1769913

<https://www.phoenixcontact.com/us/products/1769913>



FKC 2,5/13-ST - PCB connector

1910461

<https://www.phoenixcontact.com/us/products/1910461>



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 13, number of rows: 1, number of positions: 13, number of connections: 13, product range: FKC 2,5/...-ST, pitch: 5 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

FKCS 2,5/13-ST - PCB connector

1974847

<https://www.phoenixcontact.com/us/products/1974847>



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 13, number of rows: 1, number of positions: 13, number of connections: 13, product range: FKCS 2,5/...-ST, pitch: 5 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

Phoenix Contact 2023 © - 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