

# Printed-circuit board connector - MSTB 2,5/13-ST - 1754669

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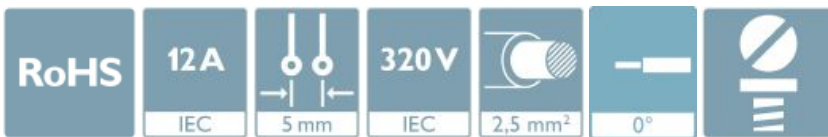


The figure shows a 10-position version of the product


PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, Number of potentials: 13, Number of rows: 1, Number of positions per row: 13, number of connections: 13, product range: MSTB 2,5/..-ST, pitch: 5 mm, connection method: Screw connection with tension sleeve, conductor/PCB connection direction: 0 °, Locking clip: - Locking clip, plug-in system: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard

## Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Allows connection of two conductors



## Key Commercial Data

Packing unit	50 pc
GTIN	 4 017918 028831
GTIN	4017918028831

## Technical data

### Item properties

Brief article description	PCB connector
Plug-in system	CLASSIC COMBICON
Type of contact	Female connector
Range of articles	MSTB 2,5/..-ST
Pitch	5 mm
Number of positions	13
Drive form screw head	Slotted (L)
Screw thread	M3
Locking	without
Number of levels	1
Number of connections	13
Number of potentials	13

# Printed-circuit board connector - MSTB 2,5/13-ST - 1754669

## Technical data

### Electrical parameters

Nominal current	12 A
Nom. voltage	320 V
Rated voltage (III/3)	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>
Cylindrical gauge a x b / diameter	2.8 mm x 2.4 mm / 2.5 mm
Stripping length	7 mm
Torque	0.5 Nm ... 0.6 Nm

### Flange specifications

Type of locking	without
Mounting flange	without

### 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

Housing color	green (6021)
Insulating material	PA
Insulating material group	I
CTI according to IEC 60112	600

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## Technical data

### Material data - housing

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

Caption	Schematische Abbildung - weitere Details siehe Produktfamilienzeichnung im Download Center
Length [ l ]	18.2 mm
Width [ w ]	65 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	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.
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### 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
Conductor cross section / conductor type / tensile force	0.2 mm <sup>2</sup> / solid / > 10 N
	0.2 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
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

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## Technical data

### Mechanical tests according to standard

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)	3.2 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/...-ST with MSTBA 2,5/...-G
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### 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>	1.4 mΩ
Insertion/withdrawal cycles	25
Contact resistance R <sub>2</sub>	1.5 mΩ
Impulse withstand voltage at sea level	4.8 kV

### Thermal tests (C)

Specification	IEC 60512-5-1:2002-02
Number of positions	24
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

# Printed-circuit board connector - MSTB 2,5/13-ST - 1754669

## Technical data

### Climatic tests (D)

Impulse withstand voltage at sea level	4.8 kV
Power-frequency withstand voltage	2.21 kV

### Environmental and durability tests (E)

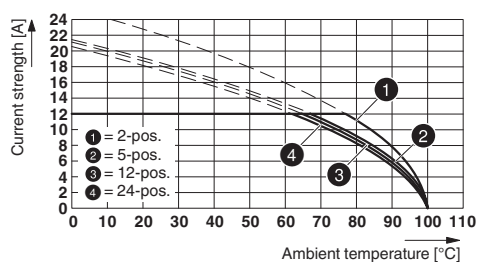
Specification	IEC 61984:2008-10
Result, degree of protection, IP code	Finger safety with IP20 test finger

### Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

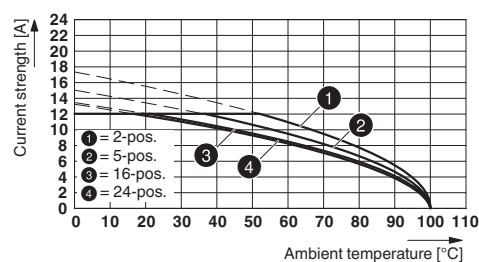
## Drawings

Diagram



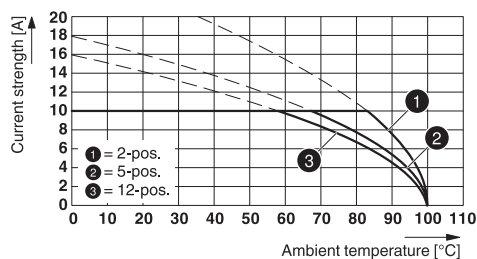
Type: MSTB 2,5/...-ST with MSTBA 2,5/...-G

Diagram



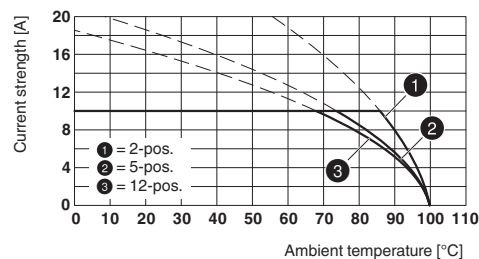
Type: MSTB 2,5/...-ST with MSTBVA 2,5/...-G

Diagram



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

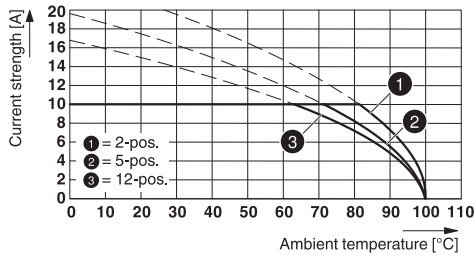
Diagram



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

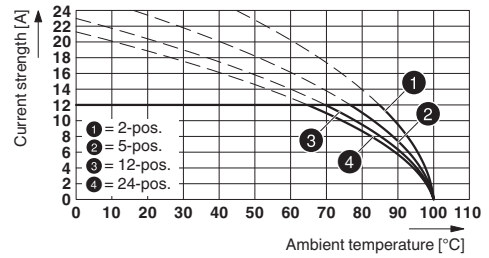
# Printed-circuit board connector - MSTB 2,5/13-ST - 1754669

Diagram



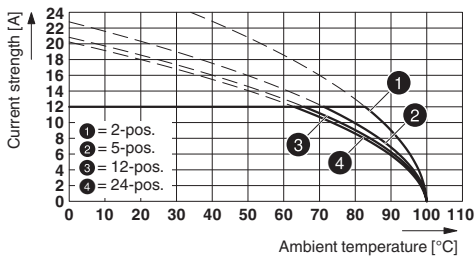
Type: MSTB 2,5/...-ST with MDSTBW 2,5/...-G

Diagram



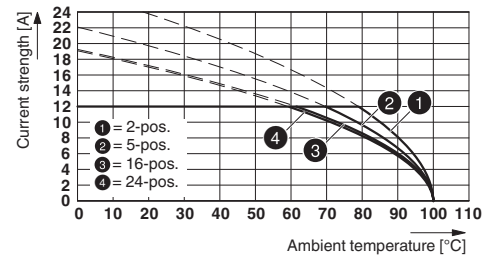
Type: MSTB 2,5/...-ST with CCA 2,5/...-G P20 THR

Diagram



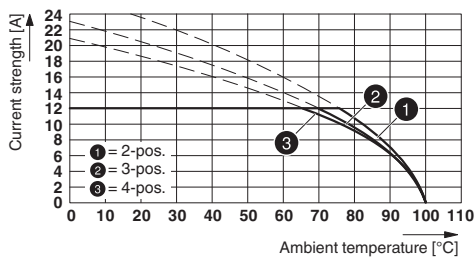
Type: MSTB 2,5/...-ST with CCVA 2,5/...-G P20 THR

Diagram



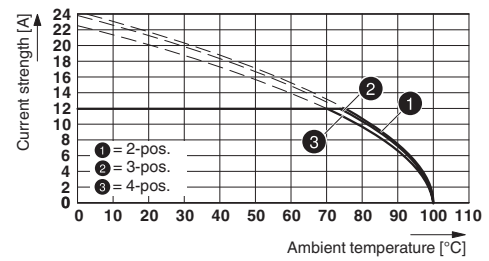
Type: MSTB 2,5/...-ST with SMSTBA 2,5/...-G

Diagram



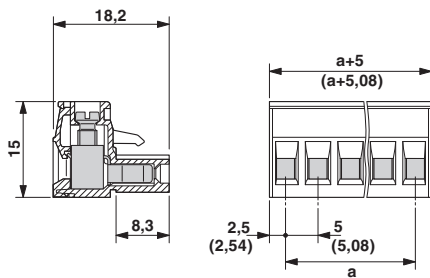
Type: MSTB 2,5/...-ST with MSTBO 2,5/...-G1L

Diagram

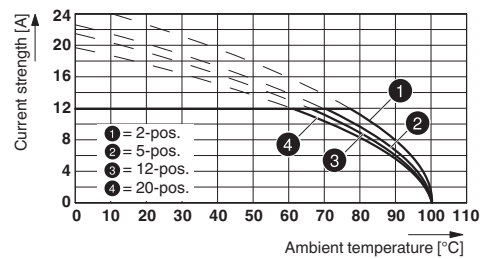


Type: MSTB 2,5/...-ST with MSTBO 2,5/...-G1R

Dimensional drawing



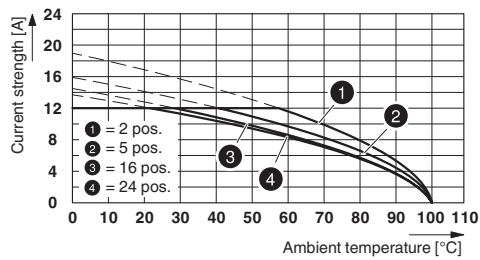
Diagram



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

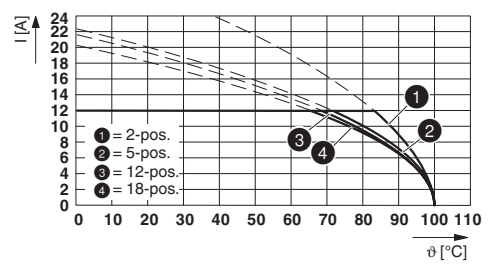
# Printed-circuit board connector - MSTB 2,5/13-ST - 1754669

Diagram



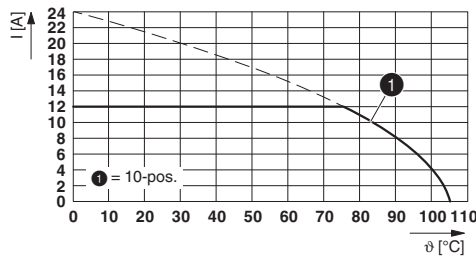
Type: MSTB 2,5/...-ST with MSTBV 2,5/...-G

Diagram



Type: MSTB 2,5/...-ST with FKIC 2,5/...-ST

Diagram



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

## Classifications

### eCl@ss

eCl@ss 10.0.1	27440309
eCl@ss 11.0	27460202
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	27440309
eCl@ss 9.0	27440309

### ETIM

ETIM 3.0	EC001121
ETIM 4.0	EC002638
ETIM 6.0	EC002638
ETIM 7.0	EC002638

### UNSPSC

UNSPSC 6.01	30211810
UNSPSC 7.0901	39121409
UNSPSC 11	39121409

# Printed-circuit board connector - MSTB 2,5/13-ST - 1754669

## Classifications

### UNSPSC

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

#### Approvals

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

#### Ex Approvals

### Approval details

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		

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	

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		



# Printed-circuit board connector - MSTB 2,5/13-ST - 1754669

## Approvals

mm²/AWG/kcmil	0.2-2.5
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EAC		B.01687
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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
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	B	D
Nominal voltage UN	300 V	300 V
Nominal current IN	15 A	10 A
mm²/AWG/kcmil	30-12	30-12

## Accessories

### Accessories

#### Bridge

Insertion bridge - EBP 2- 5 - 1733169



Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch

#### Cable housing

Cable housing - KGS-MSTB 2,5/13 - 1783821



Cable housing, pitch: 0 mm, number of positions: 13, dimension a: 65 mm, color: green

#### Coding element

Coding profile - CP-MSTB - 1734634



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

# Printed-circuit board connector - MSTB 2,5/13-ST - 1754669

## Accessories

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### Labeled terminal marker

Marker card - SK 5,08/3,8:FORTL.ZAHLEN - 0804293



Marker card, Card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... (99)100, mounting type: adhesive, for terminal block width: 5.08 mm, lettering field size: 5.08 x 3.8 mm

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### Screwdriver tools

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 - MSTBW 2,5/13-G - 1736001



PCB header, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Male connector, Number of potentials: 13, Number of rows: 1, Number of positions per row: 13, number of connections: 13, product range: MSTBW 2,5/..-G, pitch: 5 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm, plug-in system: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard

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Feed-through header - MSTBV 2,5/13-G - 1753657



PCB header, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Male connector, Number of potentials: 13, Number of rows: 1, Number of positions per row: 13, number of connections: 13, product range: MSTBV 2,5/..-G, pitch: 5 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm, plug-in system: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard

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Feed-through header - MSTB 2,5/13-G - 1754656



PCB header, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Male connector, Number of potentials: 13, Number of rows: 1, Number of positions per row: 13, number of connections: 13, product range: MSTB 2,5/..-G, pitch: 5 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm, plug-in system: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard

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## Printed-circuit board connector - MSTB 2,5/13-ST - 1754669

### Accessories

#### Printed-circuit board connector - MSTBVA 2,5/13-G - 1755613



PCB header, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Male connector, Number of potentials: 13, Number of rows: 1, Number of positions per row: 13, number of connections: 13, product range: MSTBVA 2,5/...-G, pitch: 5 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm, plug-in system: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard

#### Printed-circuit board connector - MSTBA 2,5/13-G - 1757572



PCB header, nominal cross section: 2.5 mm<sup>2</sup>, nominal current: 12 A, rated voltage (III/2): 320 V, type of contact: Male connector, Number of potentials: 13, Number of rows: 1, Number of positions per row: 13, number of connections: 13, product range: MSTBA 2,5/...-G, pitch: 5 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm, plug-in system: CLASSIC COMBICON, Locking: without

#### Feed-through header - MDSTB 2,5/13-G1 - 1762800



PCB header, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 10 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Male connector, Number of potentials: 26, Number of rows: 2, Number of positions per row: 13, number of connections: 26, product range: MDSTB 2,5/...-G1, pitch: 5 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm, plug-in system: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard, In combination with MVSTB or FKCV plug components, both an MVSTBW (or FKCVV) and an MVSTBR plug (or FKCVR) must be used. Combination with TMSTBP plug components is not possible!

#### Feed-through header - MDSTBV 2,5/13-G1 - 1762952



PCB header, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 10 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Male connector, Number of potentials: 26, Number of rows: 2, Number of positions per row: 13, number of connections: 26, product range: MDSTBV 2,5/...-G1, pitch: 5 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm, plug-in system: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard, In combination with MVSTB or FKCV plug components, both an MVSTBW (or FKCVV) and an MVSTBR plug (or FKCVR) must be used. Combination with TMSTBP plug components is not possible!

#### Feed-through header - MSTB 2,5/13-G-LA - 1768299



PCB header, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Male connector, Number of potentials: 13, Number of rows: 1, Number of positions per row: 13, number of connections: 13, product range: MSTB 2,5/...-G-LA, pitch: 5 mm, mounting: Wave soldering, pin layout: Linear pinning, plug-in system: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard

## Printed-circuit board connector - MSTB 2,5/13-ST - 1754669

### Accessories

#### Printed-circuit board connector - SMSTB 2,5/13-G - 1769340



PCB header, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Male connector, Number of potentials: 13, Number of rows: 1, Number of positions per row: 13, number of connections: 13, product range: SMSTB 2,5/..-G, pitch: 5 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm, plug-in system: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard

#### Feed-through header - SMSTBA 2,5/13-G - 1769913



PCB header, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Male connector, Number of potentials: 13, Number of rows: 1, Number of positions per row: 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, plug-in system: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard

#### Feed-through header - MSTBA 2,5/13-G-LA - 1770591



PCB header, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Male connector, Number of potentials: 13, Number of rows: 1, Number of positions per row: 13, number of connections: 13, product range: MSTBA 2,5/..-G -LA, pitch: 5 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.2 mm, plug-in system: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard

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