

# Printed-circuit board connector - FKCN 2,5/13-ST-5,08 - 1754678

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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: 13, pitch: 5.08 mm, connection method: Push-in spring connection, color: green, contact surface: Tin



The figure shows a 10-position version of the product

## Your advantages

- Time saving push-in connection, tools not required
- Intuitive use through colour coded actuation lever
- Extremely small design for the respective conductor cross section
- Quick and convenient testing using integrated test option
- Can be combined with the MSTB 2,5 range



## Key Commercial Data

Packing unit	50 pc
GTIN	
GTIN	4046356330336

## Technical data

### Item properties

Brief article description	PCB connector
Plug-in system	CLASSIC COMBICON
Type of contact	Female connector
Range of articles	FKCN 2,5/..-ST
Pitch	5.08 mm
Number of positions	13
Connection method	Push-in spring connection
Locking	without
Number of levels	1
Number of connections	13

# Printed-circuit board connector - FKCN 2,5/13-ST-5,08 - 1754678

## Technical data

### Item properties

Number of potentials	13
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### Electrical parameters

Nominal current	12 A
Nom. voltage	320 V
Rated voltage	320 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	Push-in spring connection
pluggable	Yes
Conductor cross section solid	0.2 mm <sup>2</sup> ... 1.5 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 ... 16
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Stripping length	10 mm

### 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 (4 - 8 µm Sn)
Metal surface contact area (top layer)	Tin (4 - 8 µm Sn)

### 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

### Material data – actuating element

Insulating material	PA
CTI according to IEC 60112	600
Flammability rating according to UL 94	V0

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## Technical data

### Dimensions for the product

Length [ l ]	27.1 mm
Width [ w ]	66.04 mm
Height [ h ]	10.9 mm
Pitch	5.08 mm
Height (without solder pin)	10.9 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

Conductor connection test	The stripped-off ends of the largest conductor can be completely inserted in the opening of the terminal point without using excessive force.
Test result	Test passed
Test – repeated connection and release	IEC 60999-1:1999-11
	Test passed
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	0.2 mm <sup>2</sup> / solid / > 10 N
	0.2 mm <sup>2</sup> / flexible / > 10 N
	1.5 mm <sup>2</sup> / solid / > 40 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

# Printed-circuit board connector - FKCN 2,5/13-ST-5,08 - 1754678

## Technical data

### Mechanical tests according to standard

No. of cycles	25
Insertion strength per pos. approx.	10 N
Withdraw strength per pos. approx.	9 N
Polarization and coding	IEC 60512-13-5:2006-02
Contact holder in insert	IEC 60512-15-1:2008-05
Test force per pos.	33 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)	4 mm
Minimum creepage distance value (III/2)	3 mm
Minimum creepage distance value (II/2)	3.2 mm

### Electrical tests - Function

Specification	IEC 60999-1:1999-11
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### Temperature cycles

Specification	IEC 60999-1:1999-11
Temperature cycles	192

### Current carrying capacity / derating curves

Caption	Type: FKCN 2,5/...-ST-5,08 with CCA 2,5/...-G-5,08 P26THR
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.	10 N
Withdraw strength per pos. approx.	9 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>	1.2 mΩ
Insertion/withdrawal cycles	25
Contact resistance R <sub>2</sub>	1.3 mΩ
Impulse withstand voltage at sea level	4.8 kV

## Printed-circuit board connector - FKCN 2,5/13-ST-5,08 - 1754678

### Technical data

#### Durability tests (B)

Power-frequency withstand voltage	2.21 kV
Insulation resistance, neighboring positions	> 0.2 TΩ

#### 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

#### 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

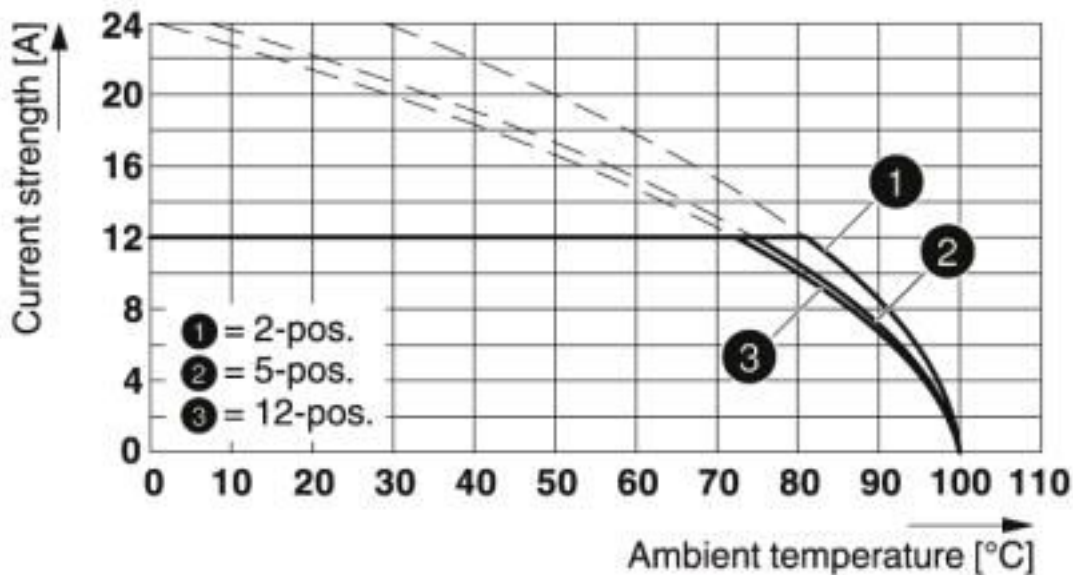
#### Environmental Product Compliance

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

### Drawings

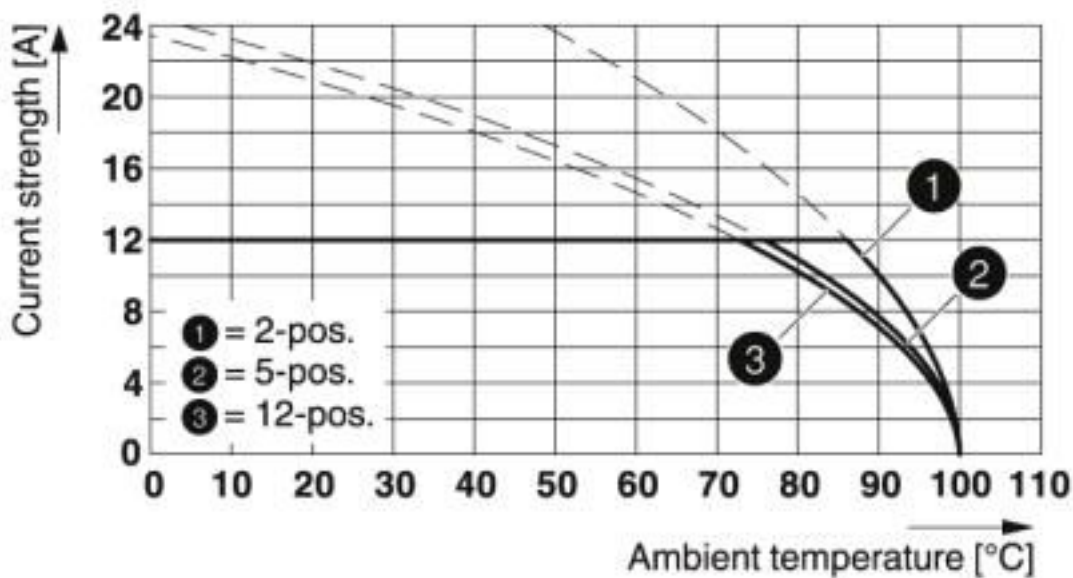
# Printed-circuit board connector - FKCN 2,5/13-ST-5,08 - 1754678

Diagram



Type: FKCN 2,5/...-ST-5,08 with CCA 2,5/...-G-5,08 P26THR

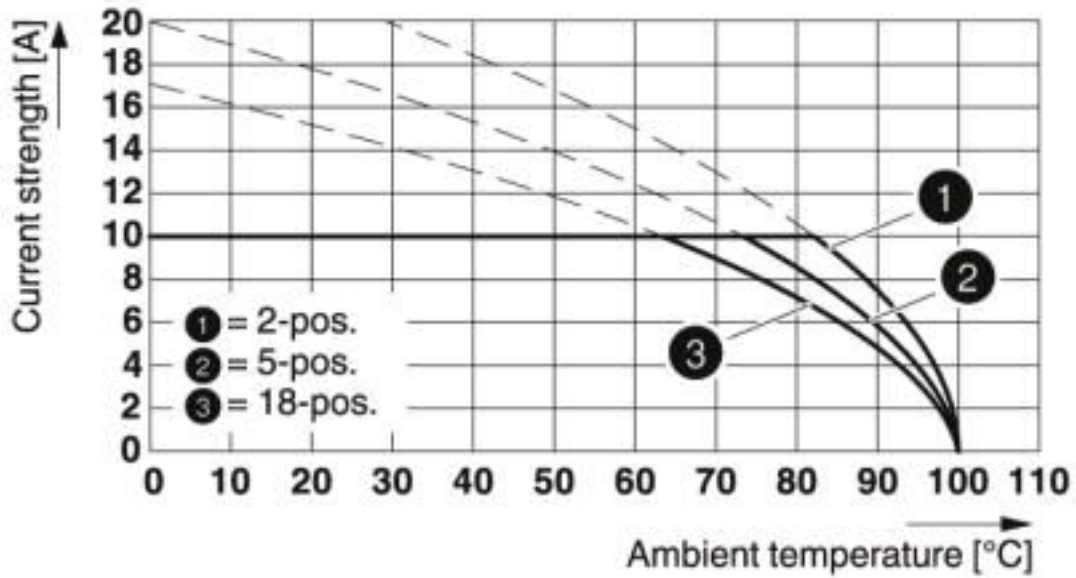
Diagram



Type: FKCN 2,5/...-ST-5,08 with CCVA 2,5/...-G-5,08 P26THR

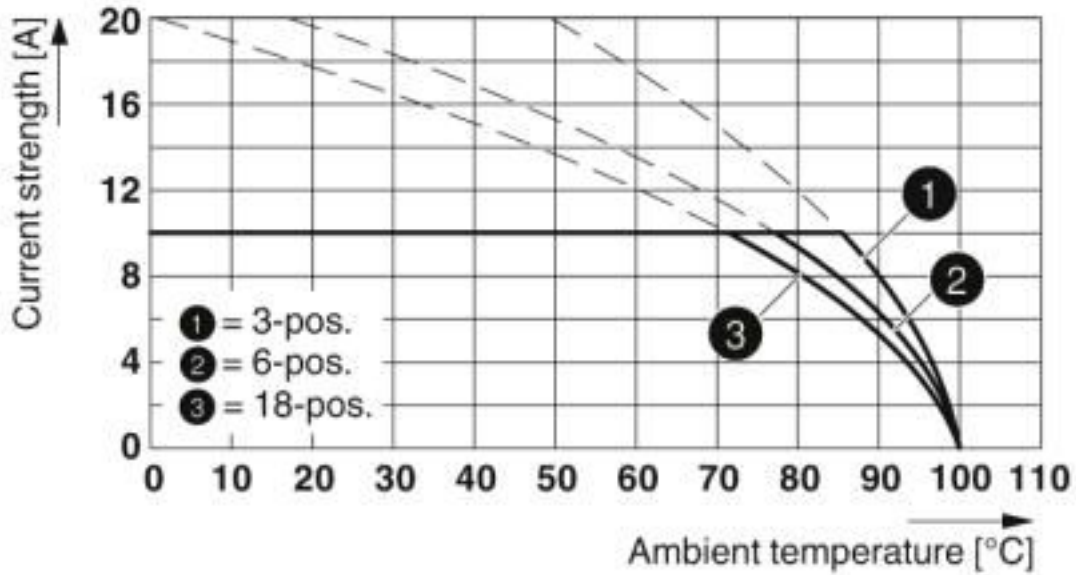
# Printed-circuit board connector - FKCN 2,5/13-ST-5,08 - 1754678

Diagram



Type: FKCN 2,5/...-ST-5,08 with MDSTB 2,5/...-G1-5,08

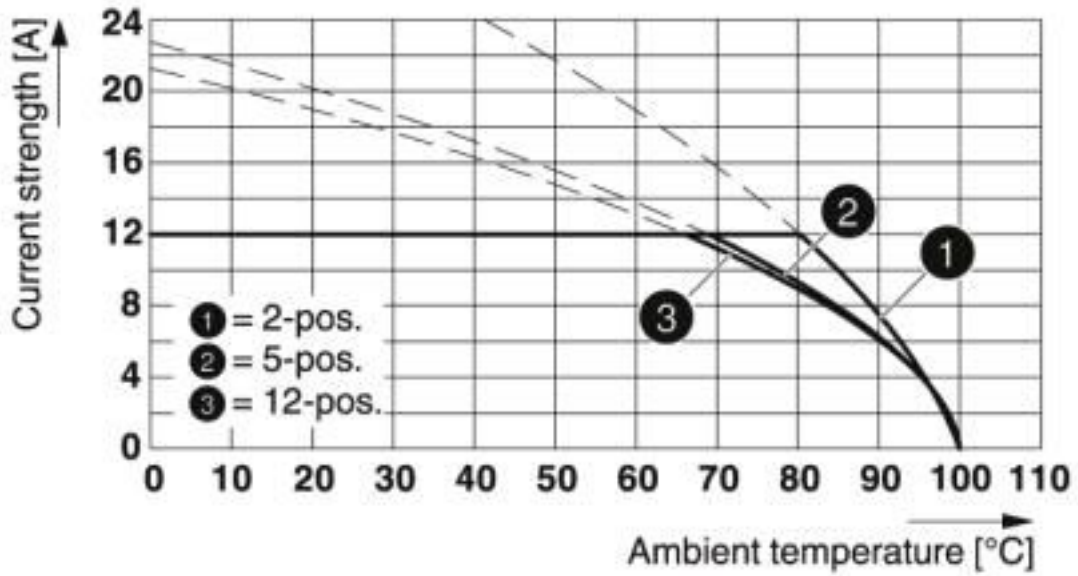
Diagram



Type: FKCN 2,5/...-ST-5,08 with MDSTBV 2,5/...-G1-5,08

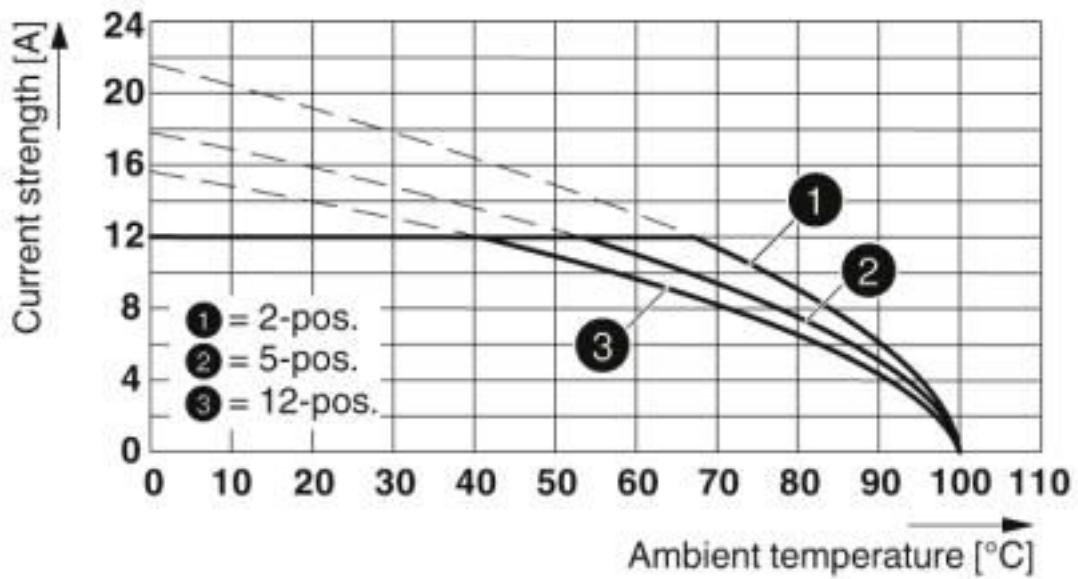
# Printed-circuit board connector - FKCN 2,5/13-ST-5,08 - 1754678

Diagram



Type: FKCN 2,5/...-ST-5,08 with MSTBA 2,5/...-G-5,08

Diagram

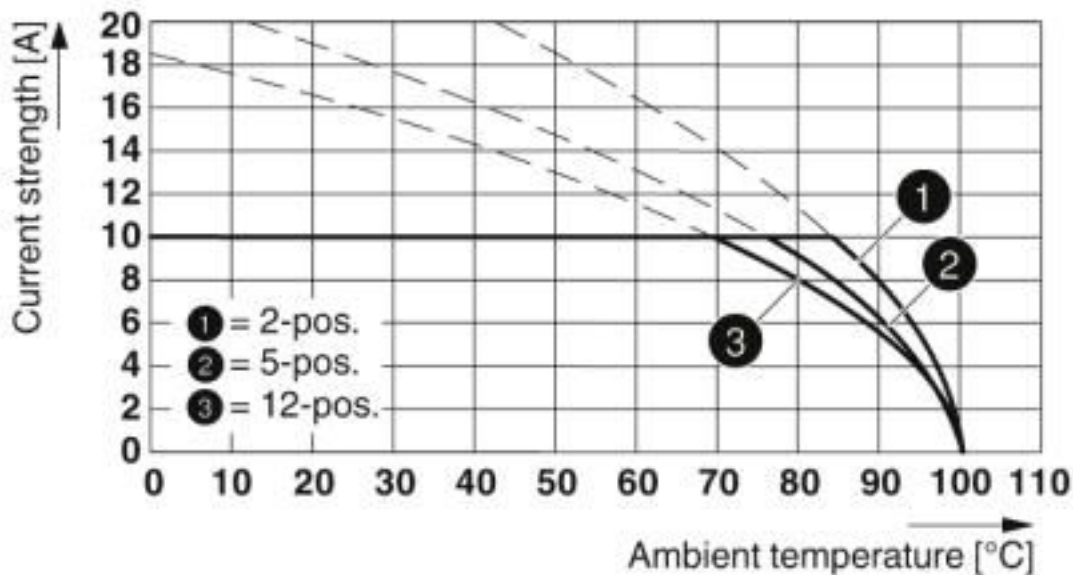


Type: FKCN 2,5/...-ST-5,08 with MSTBVA 2,5/...-G-5,08



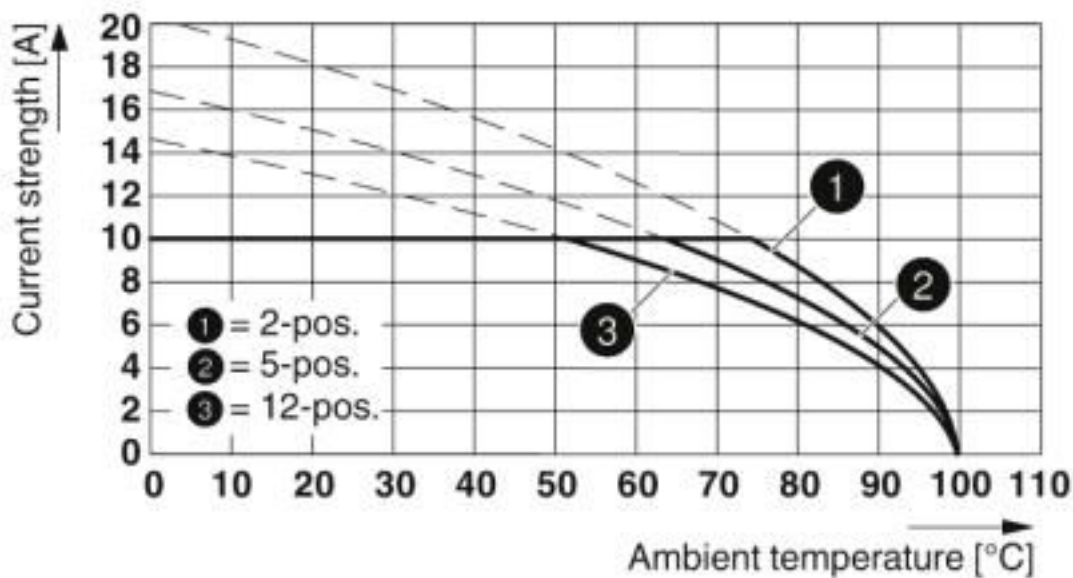
# Printed-circuit board connector - FKCN 2,5/13-ST-5,08 - 1754678

Diagram



Type: FKCN 2,5/...-ST-5,08 with MDSTBA 2,5/...-G-5,08

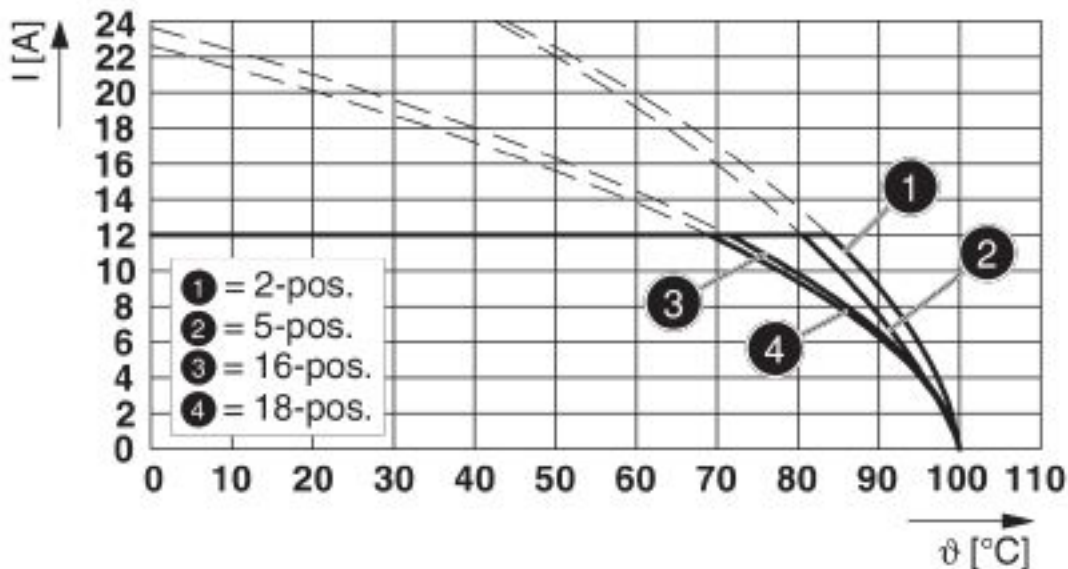
Diagram



Type: FKCN 2,5/...-ST-5,08 with MDSTBVA 2,5/...-G-5,08

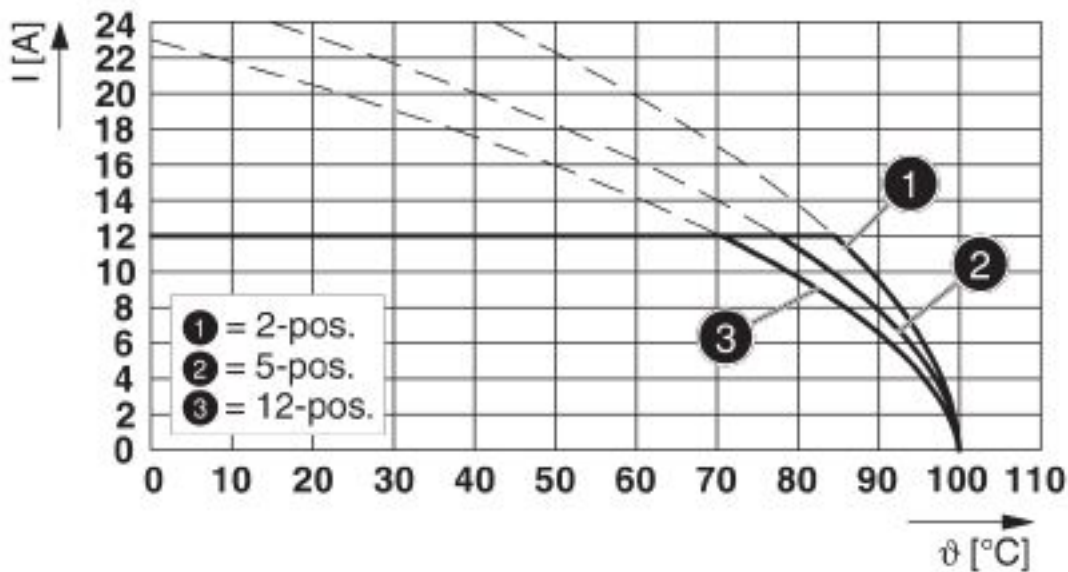
# Printed-circuit board connector - FKCN 2,5/13-ST-5,08 - 1754678

Diagram



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

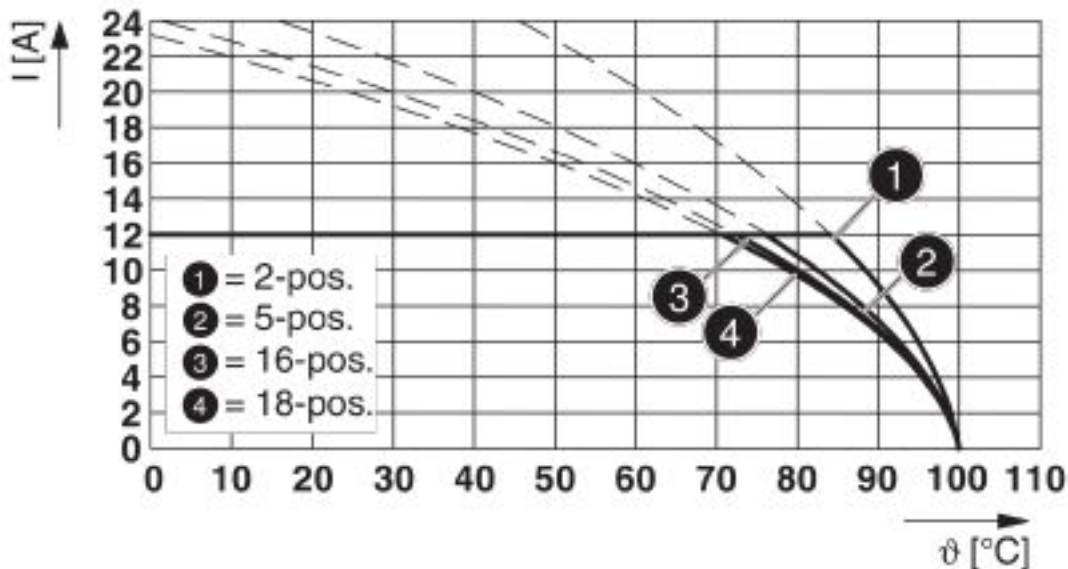
Diagram



Type: FKCN 2,5/...-ST-5,08 with CC 2,5/...-G-5,08 P...THR

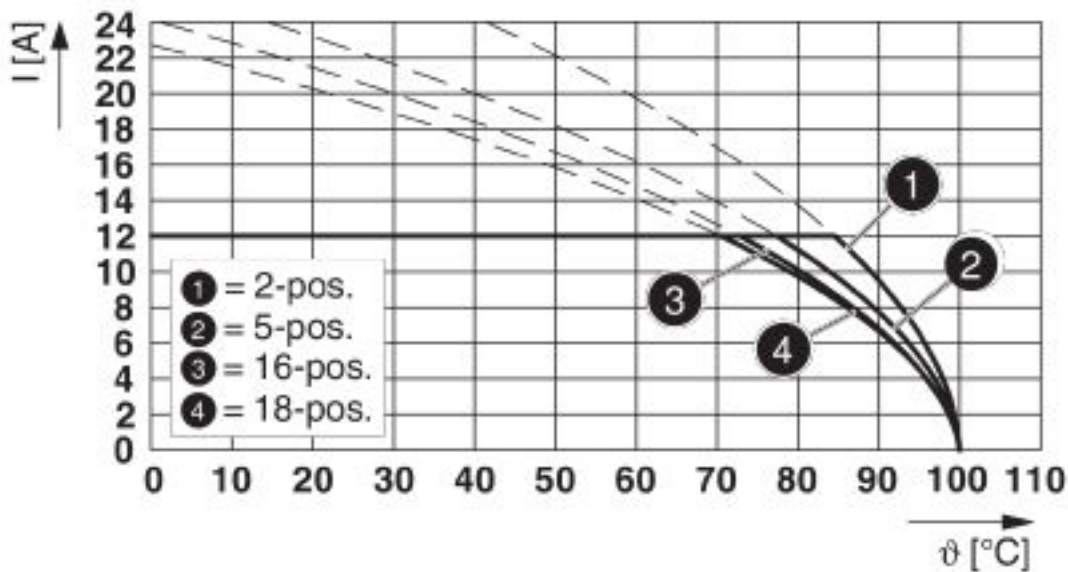
# Printed-circuit board connector - FKCN 2,5/13-ST-5,08 - 1754678

Diagram



Type: FKCN 2,5/...-ST-5,08 with SMSTB 2,5/...-G-5,08

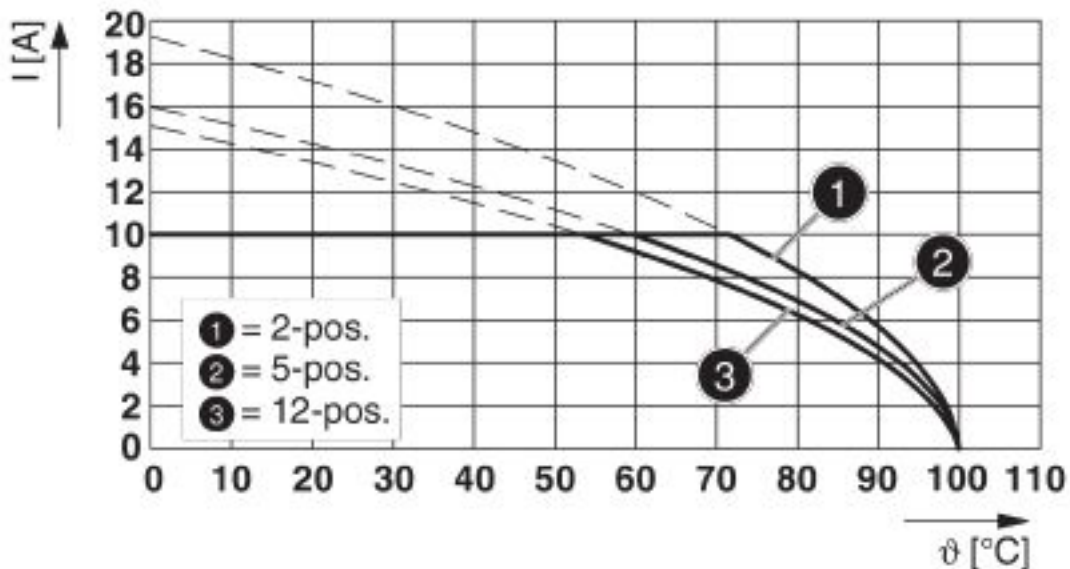
Diagram



Type: FKCN 2,5/...-ST-5,08 with SMSTBA 2,5/...-G-5,08

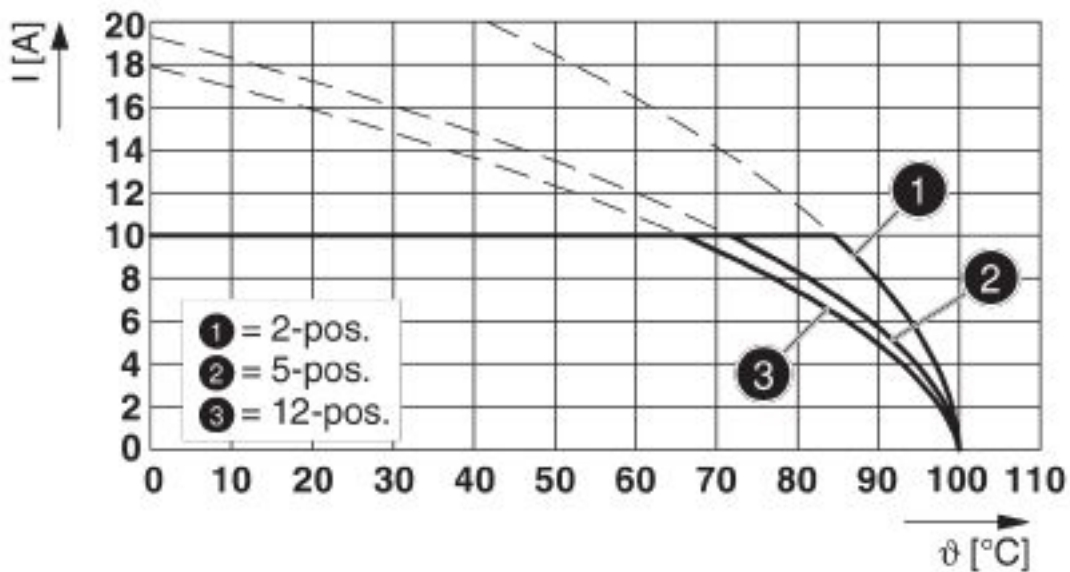
# Printed-circuit board connector - FKCN 2,5/13-ST-5,08 - 1754678

Diagram



Type: FKCN 2,5/...-ST-5,08 with MDSTBV 2,5/...-G-5,08

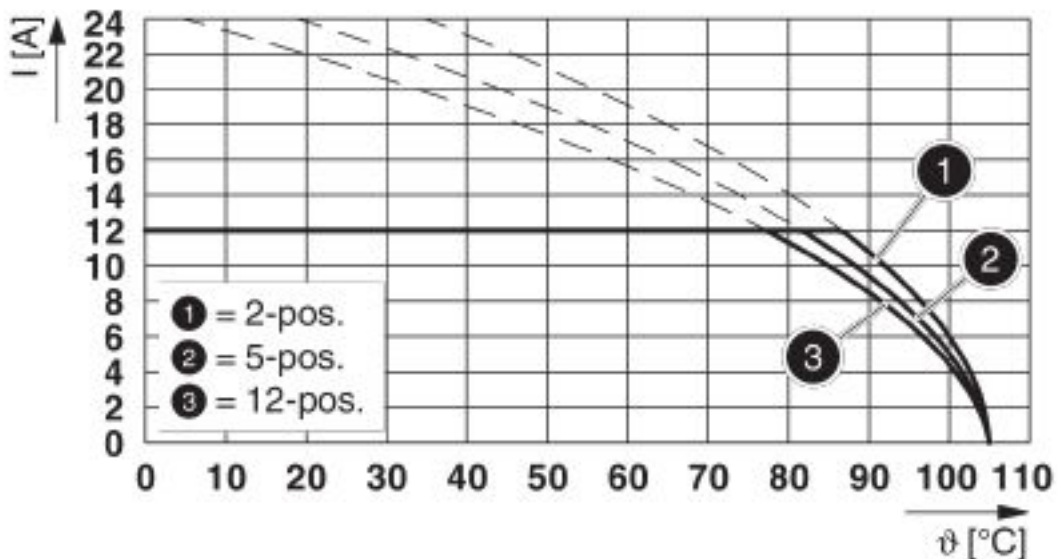
Diagram



Type: FKCN 2,5/...-ST-5,08 with MDSTBW 2,5/...-G-5,08

# Printed-circuit board connector - FKCN 2,5/13-ST-5,08 - 1754678

Diagram



Type: FKCN 2,5/...-ST-5,08 with CCV 2,5/...-G-5,08 P...THR

## 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
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

# Printed-circuit board connector - FKCN 2,5/13-ST-5,08 - 1754678

## Classifications

### UNSPSC

UNSPSC 13.2	39121409
UNSPSC 18.0	39121409
UNSPSC 19.0	39121409
UNSPSC 20.0	39121409
UNSPSC 21.0	39121409

## Approvals

### Approvals

#### Approvals

IECEE CB Scheme / VDE Gutachten mit Fertigungsüberwachung / EAC / cULus Recognized

#### Ex Approvals

### Approval details

IECEE CB Scheme		<a href="http://www.iecee.org/">http://www.iecee.org/</a>	DE1-58427
Nominal voltage UN	400 V		
Nominal current IN	12 A		
mm <sup>2</sup> /AWG/kcmil	0.2-2.5		

VDE Gutachten mit Fertigungsüberwachung		<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>	40041908
Nominal voltage UN	400 V		
Nominal current IN	12 A		
mm <sup>2</sup> /AWG/kcmil	0.2-2.5		

EAC		B.01687
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# Printed-circuit board connector - FKCN 2,5/13-ST-5,08 - 1754678

## Approvals

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>	E60425-19931012
	B	D	
Nominal voltage UN	300 V	300 V	
Nominal current IN	10 A	10 A	
mm²/AWG/kcmil	24-14	24-14	

## Accessories

### Accessories

#### Cable end sleeve

Ferrule - AI 0,5 -10 WH - 3201275



Ferrule, sleeve length: 10 mm, length: 16 mm, color: white

Ferrule - AI 0,75-10 GY - 3201288



Ferrule, sleeve length: 10 mm, length: 16 mm, color: gray

Ferrule - AI 1 -10 RD - 3200182



Ferrule, sleeve length: 10 mm, length: 16 mm, color: red

Ferrule - AI 1,5 -10 BK - 3200195



Ferrule, sleeve length: 10 mm, length: 16 mm, color: black

## Printed-circuit board connector - FKCN 2,5/13-ST-5,08 - 1754678

### Accessories

Ferrule - A 0,5 -10 - 3202494



Ferrule, length: 10 mm, color: silver

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Ferrule - A 0,75-10 - 3200234



Ferrule, length: 10 mm, color: silver

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Ferrule - A 1 -10 - 3200250



Ferrule, length: 10 mm, color: silver

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Ferrule - A 1,5 -10 - 3200276



Ferrule, length: 10 mm, color: silver

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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



### Crimping tool



## Printed-circuit board connector - FKCN 2,5/13-ST-5,08 - 1754678

### Accessories

Crimping pliers - CRIMPFOX 6 - 1212034



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm<sup>2</sup> ... 6.0 mm<sup>2</sup>, lateral entry, trapezoidal crimp

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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-5,08 - 1735772



PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 13, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm

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Printed-circuit board connector - CCDN 2,5/13-G1-5,08 P26 THR - 1753242



PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 13, pitch: 5.08 mm, color: black, contact surface: Tin, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2.6 mm

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Printed-circuit board connector - MSTBVA 2,5/13-G-5,08 - 1755846



PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 13, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm

## Printed-circuit board connector - FKCN 2,5/13-ST-5,08 - 1754678

### Accessories

#### Printed-circuit board connector - MSTBA 2,5/13-G-5,08 - 1757352

PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 13, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm



#### Feed-through header - MSTBV 2,5/13-G-5,08 - 1758128

PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 13, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm



#### Feed-through header - MSTB 2,5/13-G-5,08 - 1759127

PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 13, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm



#### Feed-through header - MDSTBV 2,5/13-G1-5,08 - 1762619

PCB headers, nominal current: 10 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 13, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm, 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!



#### Feed-through header - SMSTBA 2,5/13-G-5,08 - 1767481

PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 13, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm



## Printed-circuit board connector - FKCN 2,5/13-ST-5,08 - 1754678

### Accessories

Feed-through header - MSTBA 2,5/13-G-5,08-LA - 1768053



PCB headers, number of positions: 13, pitch: 5.08 mm, color: green, contact surface: Tin, pin layout: Linear pinning

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Printed-circuit board connector - SMSTB 2,5/13-G-5,08 - 1769573



PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 13, pitch: 5.08 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 2,5/13-GEH-5,08 - 1808573



PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 13, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm

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Printed-circuit board connector - DFK-MSTBA 2,5/13-G-5,08 - 1898949



Feed-through header, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 13, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.2 mm

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Printed-circuit board connector - DFK-MSTBVA 2,5/13-G-5,08 - 1899249



Feed-through header, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 13, pitch: 5.08 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning

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