

# Printed-circuit board connector - MSTB 2,5/10-GF-5,08 BK - 1751073

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PCB headers, nominal cross section: 2.5 mm<sup>2</sup>, color: black, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Male connector, number of potentials: 10, Number of rows: 1, Number of positions per row: 10, number of connections: 10, product range: MSTB 2,5/..-GF, pitch: 5.08 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm, plug-in system: CLASSIC COMBICON, Pin connector pattern alignment: Standard, Locking: Screw locking, mounting: Threaded flange, type of packaging: packed in cardboard




The figure shows a 10-position version of the product

## Your advantages

- ✓ Maximum flexibility when it comes to device design – one header for connectors with different connection technologies
- ✓ Easy PCB replacement thanks to plug-in modules
- ✓ Well-known mounting principle allows worldwide use
- ✓ Plug-in direction parallel to the PCB
- ✓ Screwable flange for superior mechanical stability



## Key Commercial Data

Packing unit	50 pc
GTIN	 4 017918 925147
GTIN	4017918925147

## Technical data

### Item properties

Brief article description	PCB header
Connector system	CLASSIC COMBICON
Type of contact	Male connector
Range of articles	MSTB 2,5/..-GF
Pitch	5.08 mm
Number of positions	10
Mounting type	Wave soldering
Pin layout	Linear pinning
Locking	Threaded flange
Number of levels	1

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## Technical data

### Item properties

Number of connections	10
Number of potentials	10
Pin connector pattern alignment	Standard

### 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)	400 V
Rated surge voltage (III/3)	4 kV
Rated surge voltage (III/2)	4 kV
Rated surge voltage (II/2)	4 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	black (9005)
Insulating material	PBT
Insulating material group	IIIa
CTI according to IEC 60112	225
Flammability rating according to UL 94	V0

### Dimensions for the product

Caption	Schematische Abbildung - weitere Details siehe Produktfamilienzeichnung im Download Center
Length [ l ]	12 mm
Width [ w ]	60.96 mm
Height [ h ]	12.1 mm
Pitch	5.08 mm
Height (without solder pin)	8.6 mm
Solder pin [P]	3.5 mm
Pin dimensions	1 x 1 mm

### Dimensions for PCB design

Hole diameter	1.4 mm
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## Technical data

### Packaging information

Type of packaging	packed in cardboard
Pieces per package	50
Denomination packing units	Pcs.

### General product information

Type of note	Notes on operation
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)

### 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)	3.2 mm
Minimum creepage distance value (II/2)	4 mm

### 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>	1.2 mΩ
Insertion/withdrawal cycles	25
Contact resistance R <sub>2</sub>	1.2 mΩ
Impulse withstand voltage at sea level	4.8 kV

### Thermal tests (C)

Specification	IEC 60512-5-1:2002-02
Number of positions	18
Upper limiting temperature requirements <100 °C	Test passed

### Climatic tests (D)

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## Technical data

### 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

### Vibration test

Specification	IEC 60068-2-6:2007-12
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 - 60.1 Hz)
Acceleration	5g (60.1 - 150 Hz)
Test duration per axis	2.5 h

### Standards and Regulations

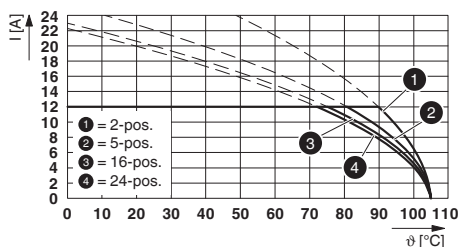
Connection in acc. with standard	EN-VDE
	CSA

### Environmental Product Compliance

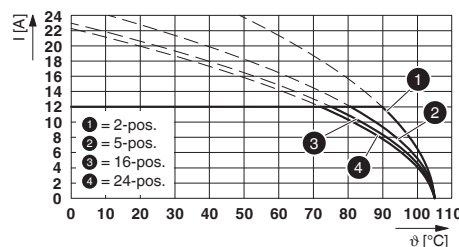
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Drawings

Diagram



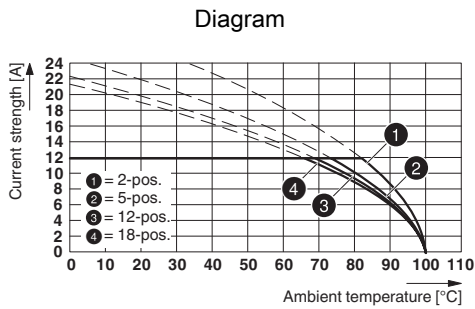
Diagram



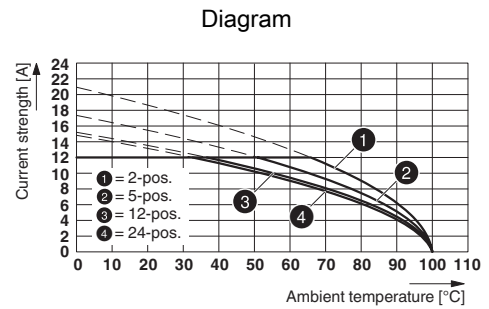
Type: FKCO(R/W) 2,5/...-STF-5,08 with MSTB 2,5/...-GF-5,08

Type: FKCO(R/W) 2,5/...-STF-5,08 with MSTB 2,5/...-GF-5,08

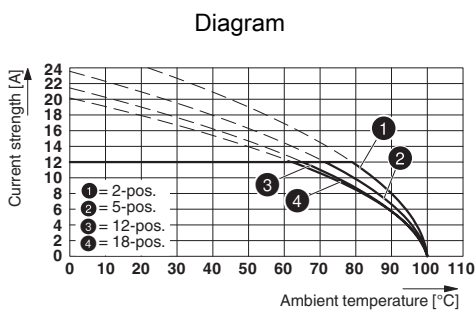
# Printed-circuit board connector - MSTB 2,5/10-GF-5,08 BK - 1751073



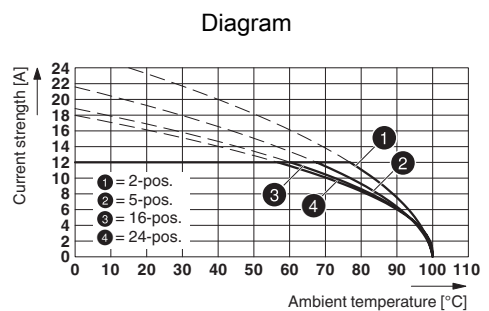
Type: FKCT 2,5/...-STF-5,08 with MSTB 2,5/...-GF-5,08



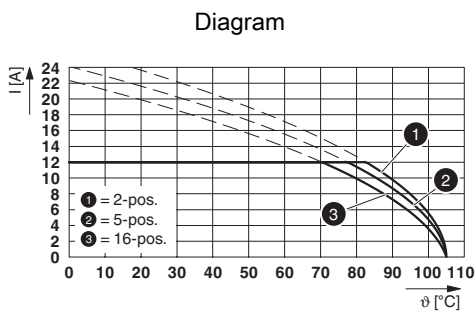
Type: MVSTBR 2,5/...-STF-5,08 with MSTB 2,5/...-GF-5,08



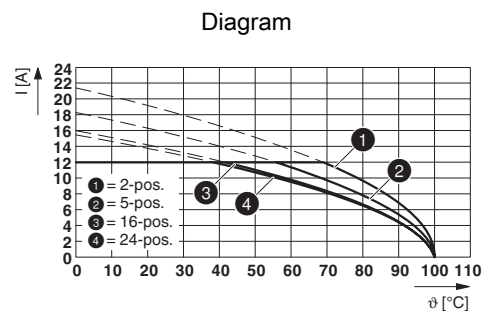
Type: MSTBT 2,5/...-STF-5,08 with MSTB 2,5/...-GF-5,08



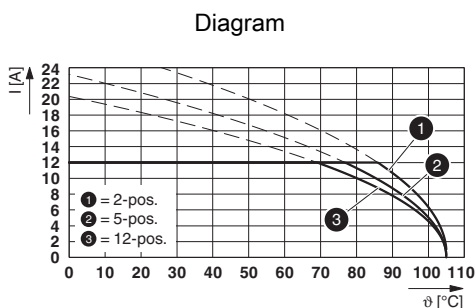
Type: FRONT-MSTB 2,5/...-STF-5,08 with MSTB 2,5/...-GF-5,08



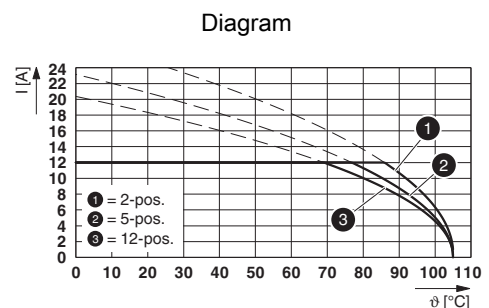
Type: FKCS 2,5/...-STF-5,08 with MSTB 2,5/...-GF-5,08



Type: SMSTB 2,5/...-STF-5,08 with MSTB 2,5/...-GF-5,08



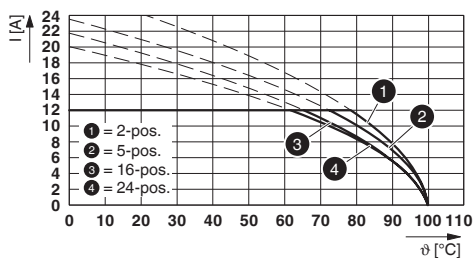
Type: FKCVR 2,5/...-STF-5,08 with MSTB 2,5/...-GF-5,08



Type: FKCVW 2,5/...-STF-5,08 with MSTB 2,5/...-GF-5,08

# Printed-circuit board connector - MSTB 2,5/10-GF-5,08 BK - 1751073

Diagram



Type: FKC 2.5/...-STF-5,08 with MSTB 2,5/...-GF-5,08

## Classifications

### eCl@ss

eCl@ss 10.0.1	27440402
eCl@ss 11.0	27460201
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 9.0	27440402

### ETIM

ETIM 3.0	EC001121
ETIM 4.0	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
UNSPSC 20.0	39121409
UNSPSC 21.0	39121409

## Approvals

Approvals

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## 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>	40050648
Nominal voltage UN		250 V	
Nominal current IN		12 A	

CSA		<a href="http://www.csagroup.org/services-industries/product-listing/">http://www.csagroup.org/services-industries/product-listing/</a>	13631
		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		250 V	
Nominal current IN		12 A	

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
		B	D
Nominal voltage UN		300 V	300 V
Nominal current IN		15 A	10 A

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