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The figure shows a 10-position version of the product

PCB header, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Male connector, Number of potentials: 16, Number of rows: 1, Number of positions per row: 16, number of connections: 16, product range: MSTBVA 2,5/..-G, pitch: 5.08 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm, Stecksystem: CLASSIC COMBICON, Locking: 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
- ✓ Vertical connection enables multi-row arrangement on the PCB
- Closed contour for optimum stability of the plug-in connection













# **Key Commercial Data**

Packing unit	1 pc
Minimum order quantity	50 pc
GTIN	4 017918 029456
GTIN	4017918029456
Weight per Piece (excluding packing)	7.090 g
Custom tariff number	85366930
Country of origin	Germany

### Technical data

#### Item properties

Brief article description	Feed-through header
Plug-in system	CLASSIC COMBICON



# Technical data

# Item properties

Male connector
MSTBVA 2,5/G
5.08 mm
16
Wave soldering
Linear pinning
without
1
16
16
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	green (6021)
Insulating material	PBT
Insulating material group	Illa
CTI according to IEC 60112	225
Flammability rating according to UL 94	V0

Dimensions for the product



# Technical data

### Dimensions for the product

Caption	Schematische Abbildung - weitere Details siehe Produktfamilienzeichnung im Download Center
Length [1]	8.6 mm
Width [w]	83.28 mm
Height [ h ]	15.9 mm
Pitch	5.08 mm
Height (without solder pin)	12 mm
Solder pin [P]	3.9 mm

# Dimensions for PCB design

Hole diameter	1.4 mm

### 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



# Technical data

### Mechanical tests (A)

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>	2.4 mΩ
Insertion/withdrawal cycles	25
Contact resistance R <sub>2</sub>	2.5 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
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

### Standards and Regulations

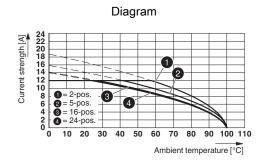
Connection in acc. with standard	EN-VDE
	CSA
Flammability rating according to UL 94	V0

# **Environmental Product Compliance**

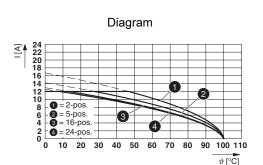
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

# Drawings

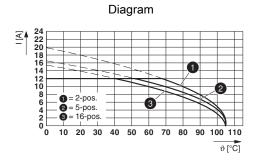




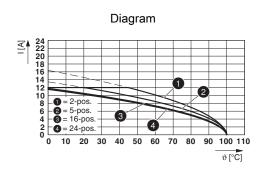
Type: MSTB 2,5/...-ST-5,08 with MSTBVA 2,5/...-G-5,08



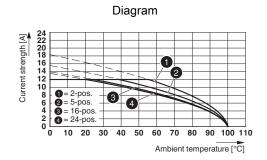
Type: SMSTB 2,5/...-ST-5,08 with MSTBVA 2,5/...-G-5,08



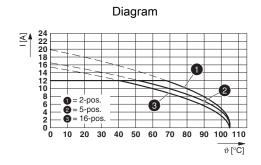
Type: FKCVR 2,5/...-ST-5,08 with MSTBVA 2,5/...-G-5,08



Type: MVSTB(R/W) 2,5/...-ST-5,08 with MSTBVA 2,5/...-G-5,08

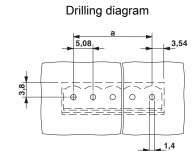


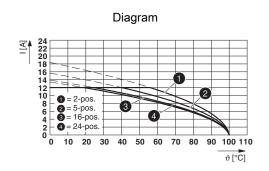
Type: MSTBP 2,5/...-ST-5,08 with MSTBVA 2,5/...-G-5,08



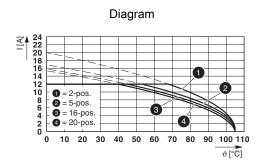
Type: FKCVW 2,5/...-ST-5,08 with MSTBVA 2,5/...-G-5,08

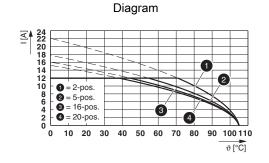




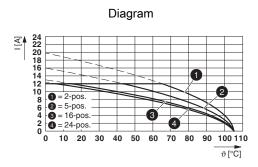


Type: FRONT-MSTB 2,5/...-ST-5,08 with MSTBVA 2,5/...-G-5,08

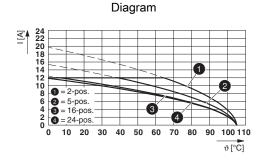




Type: FKCT 2,5/...-ST-5,08 with MSTBVA 2,5/...-G-5,08



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



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

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



# Classifications

# eCl@ss

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
UNSPSC 20.0	39121409
UNSPSC 21.0	39121409

# Approvals

Approvals

Approvals

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

Ex Approvals

Approval details



# Approvals

CSA	<b>(P</b>	http://www.csagroup.org/services-industries/product-listing/ 1363	
		В	D
Nominal voltage UN		300 V	300 V
Nominal current IN		12 A	10 A

IECEE CB Scheme	<b>CB</b> scheme	http://www.iecee.org/	DE1-60988-B1B2
Nominal voltage UN		250 V	
Nominal current IN		12 A	

EAC	EAC	B.01687
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cULus Recognized	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm E60425-1993101		E60425-19931011
	В	D	
Nominal voltage UN	300 V	300 V	
Nominal current IN	12 A	10 A	

VDE Zeichengenehmigung	DYE	http://www2.vde.com/de/Institut/Online-Service/ VDE-gepruefteProdukte/Seiten/Online-Suche.aspx		40050648
Nominal voltage UN			250 V	
Nominal current IN			12 A	

### Accessories

Accessories

Coding element



### Accessories

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 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

### Additional products

Printed-circuit board connector - FKCN 2,5/16-ST-5,08 - 1754704



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, Number of potentials: 16, Number of rows: 1, Number of positions per row: 16, number of connections: 16, product range: FKCN 2,5/..-ST, pitch: 5.08 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, Locking clip: - Locking clip, Stecksystem: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard



#### Accessories

Printed-circuit board connector - MSTB 2,5/16-ST-5,08 - 1757158



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, Number of potentials: 16, Number of rows: 1, Number of positions per row: 16, number of connections: 16, product range: MSTB 2,5/..-ST, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, conductor/PCB connection direction: 0 °, Locking clip: - Locking clip, Stecksystem: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard

#### Printed-circuit board connector - MSTB 2,5/16-STZ-5,08 - 1764248



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, Number of potentials: 16, Number of rows: 1, Number of positions per row: 16, number of connections: 16, product range: MSTB 2,5/..-STZ, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, conductor/PCB connection direction: 0 °, Locking clip: - Locking clip, Stecksystem: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard

#### Printed-circuit board connector - MSTBP 2,5/16-ST-5,08 - 1769159



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, Number of potentials: 16, Number of rows: 1, Number of positions per row: 16, number of connections: 16, product range: MSTBP 2,5/..-ST, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, conductor/PCB connection direction: 0 °, Locking clip: - Locking clip, Stecksystem: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard

#### Printed-circuit board connector - FRONT-MSTB 2,5/16-ST-5,08 - 1777426



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, Number of potentials: 16, Number of rows: 1, Number of positions per row: 16, number of connections: 16, product range: FRONT-MSTB 2,5/..-ST, pitch: 5.08 mm, connection method: Front screw connection, conductor/PCB connection direction: 0 °, Locking clip: - Locking clip, Stecksystem: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard

#### Printed-circuit board connector - MSTBT 2,5/16-ST-5,08 - 1781124



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, Number of potentials: 16, Number of rows: 1, Number of positions per row: 16, number of connections: 16, product range: MSTBT 2,5/..-ST, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, conductor/PCB connection direction: 0 °, Locking clip: - Locking clip, Stecksystem: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard



#### Accessories

Printed-circuit board connector - MVSTBR 2,5/16-ST-5,08 - 1792388



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, Number of potentials: 16, Number of rows: 1, Number of positions per row: 16, number of connections: 16, product range: MVSTBR 2,5/..-ST, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, conductor/PCB connection direction: 90 °, Locking clip: - Locking clip, Stecksystem: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard

Printed-circuit board connector - MVSTBW 2,5/16-ST-5,08 - 1792896



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, Number of potentials: 16, Number of rows: 1, Number of positions per row: 16, number of connections: 16, product range: MVSTBW 2,5/..-ST, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, conductor/PCB connection direction: -90 °, Locking clip: - Locking clip, Stecksystem: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard

Printed-circuit board connector - MSTBC 2,5/16-ST-5,08 - 1808955



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, type of contact: Female connector, Number of potentials: 16, Number of rows: 1, Number of positions per row: 16, number of connections: 16, product range: MSTBC 2,5/..-ST, pitch: 5.08 mm, connection method: Crimp connection, conductor/ PCB connection direction: 0°, Locking clip: - Locking clip, Stecksystem: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard, Corresponding female crimp contacts with current [A] and conductor cross section range [mm²] data: 10A/MSTBC-MT 0,5-1,0 (3190564); 10A/MSTBC-MT 0,5-1,0 BA (3190645); 12A/MSTBC-MT 1,5-2,5 (3190551); 12A/MSTBC-MT 1,5-2,5 BA (3190658). BA = Bandkontakte

Printed-circuit board connector - MSTBC 2,5/16-STZ-5,08 - 1809640



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, type of contact: Female connector, Number of potentials: 16, Number of rows: 1, Number of positions per row: 16, number of connections: 16, product range: MSTBC 2,5/..-STZ, pitch: 5.08 mm, connection method: Crimp connection, conductor/PCB connection direction: 0°, Locking clip: - Locking clip, Stecksystem: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard, Corresponding female crimp contacts with current [A] and conductor cross section range [mm²] data: 10A/MSTBC-MT 0,5-1,0 (3190564); 10A/MSTBC-MT 0,5-1,0 BA (3190645); 12A/MSTBC-MT 1,5-2,5 (3190551); 12A/MSTBC-MT 1,5-2,5 BA (3190658). BA = Bandkontakte

Printed-circuit board connector - MSTBU 2,5/16-STD-5,08 - 1824269



Direct plug-in block, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, Number of potentials: 16, Number of rows: 1, Number of positions per row: 16, number of connections: 16, product range: MSTBU 2,5/..-STD, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, mounting: Direct mounting, conductor/PCB connection direction: 0 °, Stecksystem: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard



### Accessories

#### Printed-circuit board connector - MSTBU 2,5/16-ST-5,08-FL MQ - 1824492



Direct plug-in block, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Male connector, Number of potentials: 16, Number of rows: 1, Number of positions per row: 16, number of connections: 16, product range: MSTBU 2,5/..-ST -FL, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, mounting: Direct mounting, conductor/PCB connection direction: 0 °, Stecksystem: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard

#### Printed-circuit board connector - SMSTB 2,5/16-ST-5,08 - 1826429



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, Number of potentials: 16, Number of rows: 1, Number of positions per row: 16, number of connections: 16, product range: SMSTB 2,5/..-ST, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, conductor/PCB connection direction: -45 °, Locking clip: - Locking clip, Stecksystem: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard

#### Plug - MSTBVK 2,5/16-ST-5,08 - 1831456



DIN rail connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, Number of potentials: 16, Number of rows: 1, Number of positions per row: 16, number of connections: 16, product range: MSTBVK 2,5/..-ST, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, mounting: DIN rail, conductor/PCB connection direction: 0 °, Stecksystem: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard

#### Printed-circuit board connector - UMSTBVK 2,5/16-ST-5,08 - 1833959



DIN rail connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, Number of potentials: 16, Number of rows: 1, Number of positions per row: 16, number of connections: 16, product range: UMSTBVK 2,5/..-ST, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, mounting: DIN rail, conductor/PCB connection direction: 0 °, Stecksystem: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard

### Printed-circuit board connector - FKC 2,5/16-ST-5,08 - 1873197



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, Number of potentials: 16, Number of rows: 1, Number of positions per row: 16, number of connections: 16, product range: FKC 2,5/..-ST, pitch: 5.08 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, Locking clip: - Locking clip, Stecksystem: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard



### Accessories

Printed-circuit board connector - FKCVW 2,5/16-ST-5,08 - 1873799



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, Number of potentials: 16, Number of rows: 1, Number of positions per row: 16, number of connections: 16, product range: FKCVW 2,5/..-ST, pitch: 5.08 mm, connection method: Pushin spring connection, conductor/PCB connection direction: -90 °, Locking clip: - Locking clip, Stecksystem: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard

Printed-circuit board connector - FKCVR 2,5/16-ST-5,08 - 1874099



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, Number of potentials: 16, Number of rows: 1, Number of positions per row: 16, number of connections: 16, product range: FKCVR 2,5/..-ST, pitch: 5.08 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 90 °, Locking clip: - Locking clip, Stecksystem: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard

Printed-circuit board connector - QC 1/16-ST-5.08 - 1883844



PCB connector, nominal cross section: 1 mm², color: green, nominal current: 10 A, rated voltage (III/2): 630 V, contact surface: Tin, type of contact: Female connector, Number of potentials: 16, Number of rows: 1, Number of positions per row: 16, number of connections: 16, product range: QC 1/..-ST, pitch: 5.08 mm, connection method: Displacement connection, conductor/PCB connection direction: 0 °, Locking clip: - Locking clip, Stecksystem: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard

Printed-circuit board connector - FKCT 2,5/16-ST-5,08 - 1902259



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, Number of potentials: 16, Number of rows: 1, Number of positions per row: 16, number of connections: 16, product range: FKCT 2,5/..-ST, pitch: 5.08 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, Locking clip: - Locking clip, Stecksystem: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard

Printed-circuit board connector - FKCS 2,5/16-ST-5,08 - 1975215



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, Number of potentials: 16, Number of rows: 1, Number of positions per row: 16, number of connections: 16, product range: FKCS 2,5/..-ST, pitch: 5.08 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, Locking clip: - Locking clip, Stecksystem: CLASSIC COMBICON, Locking: without, type of packaging: packed in cardboard



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