

Printed-circuit board connector - SMSTB 2,5/ 7-ST - 1768817

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PCB connector, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm², number of positions: 7, pitch: 5 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin



The figure shows a 10-position version of the product

Your advantages

- ✓ Well-known connection principle allows worldwide use
- ✓ Optimized for tight installation situations: operation and conductor connection from one direction
- ✓ Angled conductor connection enables operation and conductor connection from one direction
- ✓ Low temperature rise, thanks to maximum contact force



Key Commercial Data

Packing unit	50 pc
Minimum order quantity	50 pc
GTIN	
GTIN	4017918034177

Technical data

Item properties

Brief article description	Printed-circuit board connector
Plug-in system	CLASSIC COMBICON
Type of contact	Female connector
Range of articles	SMSTB 2,5/..-ST
Pitch	5 mm
Number of positions	7
Connection method	Screw connection with tension sleeve
Drive form screw head	Slotted (L)
Screw thread	M3
Locking	without

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Technical data

Item properties

Number of levels	1
Number of connections	7
Number of potentials	7

Electrical parameters

Nominal current	12 A
Nom. voltage	320 V
Rated voltage	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 ² ... 2.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross section AWG / kcmil	24 ... 12
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 2.5 mm ²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 2.5 mm ²
2 conductors with same cross section, solid	0.2 mm ² ... 1 mm ²
2 conductors with same cross section, flexible	0.2 mm ² ... 1.5 mm ²
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.25 mm ² ... 1 mm ²
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm ² ... 1.5 mm ²
Stripping length	7 mm
Torque	0.5 Nm ... 0.6 Nm

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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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

Length [l]	25.6 mm
Width [w]	35 mm
Height [h]	15.5 mm
Pitch	5 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
	Test passed
Conductor cross section / conductor type / tensile force	0.2 mm ² / solid / > 10 N
	0.2 mm ² / flexible / > 10 N
	2.5 mm ² / solid / > 50 N
	2.5 mm ² / 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
No. of cycles	25

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Technical data

Mechanical tests according to standard

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.	25 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: SMSTB 2,5/...-ST with MSTB 2,5/...-G
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.	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 ₁	2.3 mΩ
Insertion/withdrawal cycles	25
Contact resistance R ₂	2.3 mΩ
Impulse withstand voltage at sea level	4.8 kV
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	24
Conductor cross section	2.5 mm ²

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Thermal tests (C)

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 ³ SO ₂ on 300 dm ³ /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)

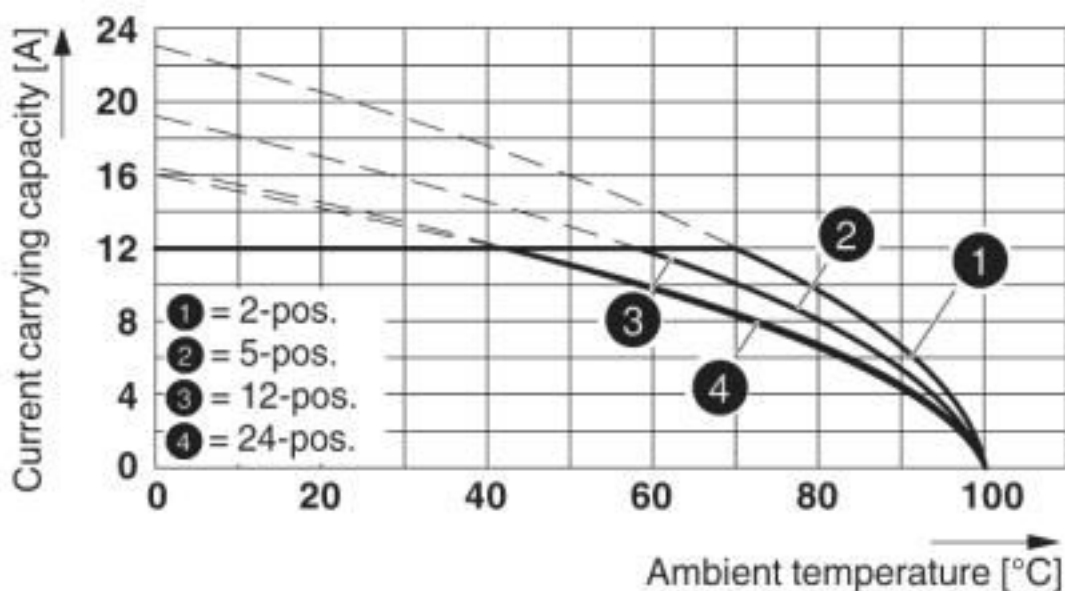
Specification	IEC 61984:2008-10
Result, degree of protection, IP code	Finger safety with IP20 test finger

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Drawings

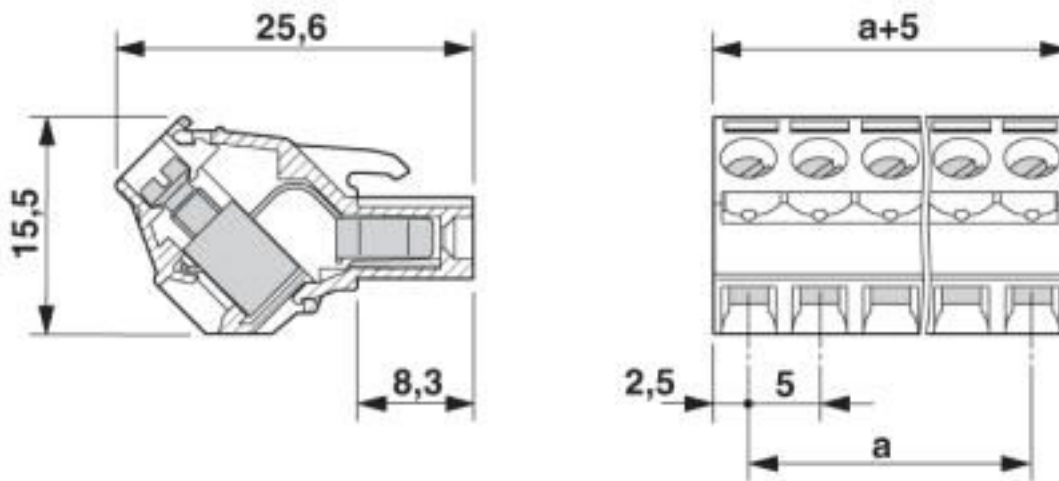
Diagram



Type: SMSTB 2,5/...-ST(-5,08) with SMSTBA 2,5/...-G(-5,08)

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Dimensional drawing



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

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Classifications

UNSPSC

UNSPSC 21.0	39121409
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Approvals

Approvals

Approvals

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

Ex Approvals

Approval details

CSA		http://www.csagroup.org/services-industries/product-listing/	13631
	B	D	
Nominal voltage UN	300 V	300 V	
Nominal current IN	15 A	10 A	
mm ² /AWG/kcmil	28-12	28-12	

EAC			B.01687
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cULus Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	E60425-19931011
	B	D	
Nominal voltage UN	300 V	300 V	
Nominal current IN	15 A	10 A	
mm ² /AWG/kcmil	30-12	30-12	

VDE Zeichengenehmigung		http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx	40004701
Nominal voltage UN	250 V		
Nominal current IN	12 A		
mm ² /AWG/kcmil	0.2-2.5		

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Approvals

IECEE CB Scheme	CB scheme	http://www.iecee.org/	DE1-60988-B1B2
Nominal voltage UN	250 V		
Nominal current IN	12 A		
mm ² /AWG/kcmil	0.2-2.5		

Accessories

Accessories

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

Additional products

Feed-through header - MSTBW 2,5/ 7-G - 1736069



PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm², number of positions: 7, pitch: 5 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/ 7-G - 1753534



PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm², number of positions: 7, pitch: 5 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/ 7-G - 1754533



PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm², number of positions: 7, pitch: 5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm

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Accessories

Printed-circuit board connector - MSTBA 2,5/ 7-G - 1755493

PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm², number of positions: 7, pitch: 5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm



Printed-circuit board connector - MSTBVA 2,5/ 7-G - 1755561

PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm², number of positions: 7, pitch: 5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm



Feed-through header - MDSTB 2,5/ 7-G1 - 1762745

PCB headers, nominal current: 10 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm², number of positions: 7, pitch: 5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 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 - MDSTBV 2,5/ 7-G1 - 1762897

PCB headers, nominal current: 10 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm², number of positions: 7, pitch: 5 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 - MSTB 2,5/ 7-G-LA - 1768231

PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm², number of positions: 7, pitch: 5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.2 mm



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Accessories

Printed-circuit board connector - SMSTB 2,5/ 7-G - 1769285

PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm², number of positions: 7, pitch: 5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm



Feed-through header - SMSTBA 2,5/ 7-G - 1769858

PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm², number of positions: 7, pitch: 5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm



Feed-through header - MSTBA 2,5/ 7-G-LA - 1770533

PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm², number of positions: 7, pitch: 5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.2 mm



Feed-through header - MDSTBVA 2,5/ 7-G - 1845837

PCB headers, nominal current: 10 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm², number of positions: 7, pitch: 5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm, The article can be aligned to create different nos. of positions! 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 - MDSTBV 2,5/ 7-G - 1845989

PCB headers, nominal current: 10 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm², number of positions: 7, pitch: 5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm, Can be aligned! Mounting flange: Order No. 1836477, 1836480. 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!



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Accessories

Feed-through header - MDSTB 2,5/ 7-G - 1846412



PCB headers, nominal current: 10 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm², number of positions: 7, pitch: 5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.2 mm, Can be aligned! Mounting flange: Order No. 1736771, 1736768. 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 - MDSTBA 2,5/ 7-G - 1846564



PCB headers, nominal current: 10 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm², number of positions: 7, pitch: 5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.2 mm, The article can be aligned to create different nos. of positions! 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 - MDSTBW 2,5/ 7-G - 1846865



PCB headers, nominal current: 10 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm², number of positions: 7, pitch: 5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.8 mm, The article can be aligned to create different nos. of positions! 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 - MSTBA 2,5/ 7-G THT - 1927548



PCB headers, number of positions: 7, pitch: 5 mm, color: black, contact surface: Tin, pin layout: Linear pinning, solder pin [P]: 2.9 mm, User information and design recommendations for through hole reflow technology can be found under: Downloads

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