

Printed-circuit board connector - GFKC 2,5/12-ST-7,5 - 1939510

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PCB connector, nominal current: 12 A, rated voltage (III/2): 630 V, nominal cross section: 2.5 mm², number of positions: 12, pitch: 7.5 mm, connection method: Push-in spring connection, color: green, contact surface: Tin, COMBICON connectors may only be activated under no load conditions. If for operating reasons small loads must be switched, experimental values are available upon request.




The figure shows a 10-position version of the product

Your advantages

- Time saving push-in connection, tools not required
- Defined contact force ensures that contact remains stable over the long term
- Larger pitch for increased voltage requirements
- Intuitive use through colour coded actuation lever
- Can be combined with the MSTB 2,5 range



Key Commercial Data

Packing unit	50 pc
GTIN	 4 017918 877606
GTIN	4017918877606

Technical data

Item properties

Brief article description	Printed-circuit board connector
Plug-in system	CLASSIC COMBICON
Type of contact	Female connector
Range of articles	GFKC 2,5/...-ST
Pitch	7.5 mm
Number of positions	12
Connection method	Push-in spring connection
Locking	without
Number of levels	1
Number of connections	12

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Technical data

Item properties

Number of potentials	12
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Electrical parameters

Nominal current	12 A
Nom. voltage	630 V
Rated voltage	400 V
Rated voltage (III/2)	630 V
Rated voltage (II/2)	1000 V
Rated surge voltage (III/3)	6 kV
Rated surge voltage (III/2)	6 kV
Rated surge voltage (II/2)	6 kV

Connection capacity

Connection method	Push-in spring connection
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 the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm ² ... 1.5 mm ²
Cylindrical gauge a x b / diameter	2.8 mm x 2.0 mm / 2.4 mm
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

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Material data – actuating element

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

Dimensions for the product

Length [l]	25.6 mm
Width [w]	88.2 mm
Height [h]	15 mm
Pitch	7.5 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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Termination and connection method

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 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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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.	35 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)	5.5 mm
Minimum clearance - inhomogeneous field (III/2)	5.5 mm
Minimum clearance - inhomogeneous field (II/2)	5.5 mm
Minimum creepage distance value (III/3)	5.5 mm
Minimum creepage distance value (III/2)	5.5 mm
Minimum creepage distance value (II/2)	5.5 mm

Current carrying capacity / derating curves

Caption	Type: GFKC 2,5/...-ST-7,5 with GMSTB 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	0.9 mΩ
Insertion/withdrawal cycles	25
Contact resistance R ₂	1 mΩ
Impulse withstand voltage at sea level	7.3 kV
Power-frequency withstand voltage	3.31 kV
Insulation resistance, neighboring positions	> 98 GΩ

Thermal tests (C)

Specification	IEC 60512-5-1:2002-02
Number of positions	12
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	105 °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	7.3 kV
Power-frequency withstand voltage	3.31 kV

Environmental and durability tests (E)

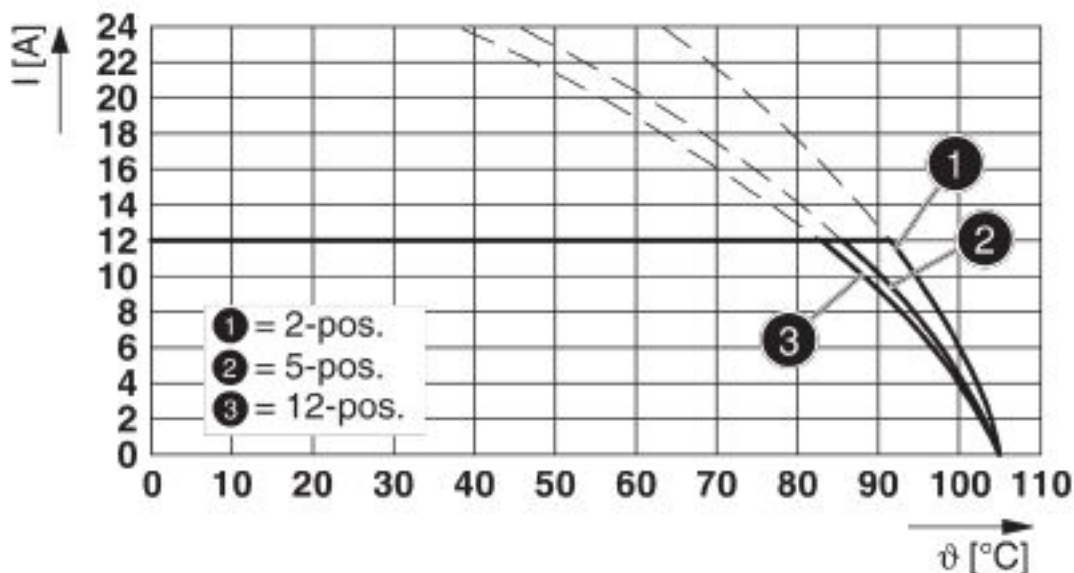
Specification	IEC 61984:2008-10
Result, degree of protection, IP code	Finger safety with IP20 test finger

Environmental Product Compliance

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

Drawings

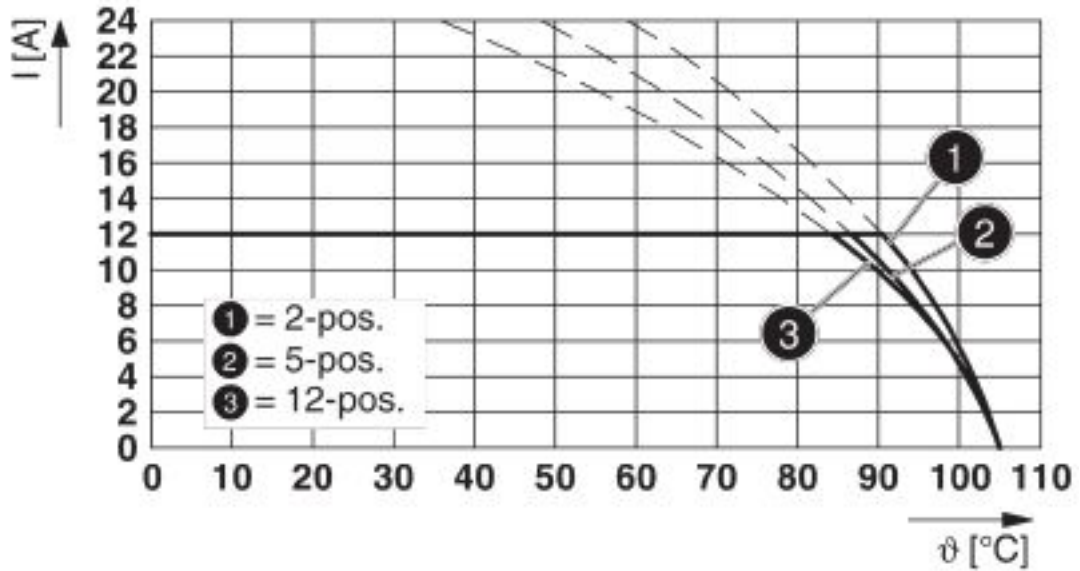
Diagram



Type: GFKC 2,5/...-ST-7,5 with GMSTB 2,5/...-G

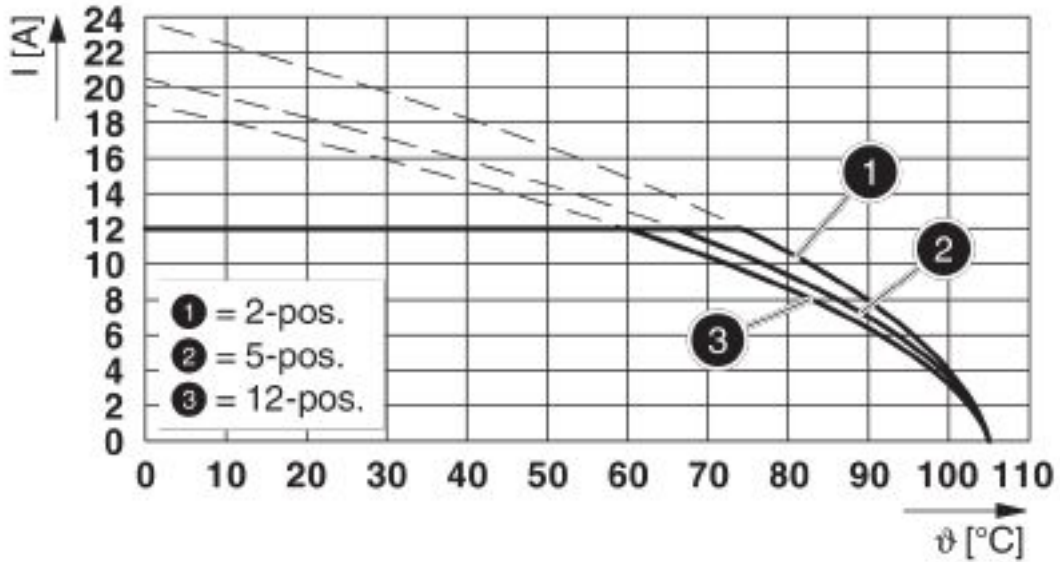
Printed-circuit board connector - GFKC 2,5/12-ST-7,5 - 1939510

Diagram



Type: GFKC 2,5/...-ST-7,5 with GMSTBA 2,5/...-G

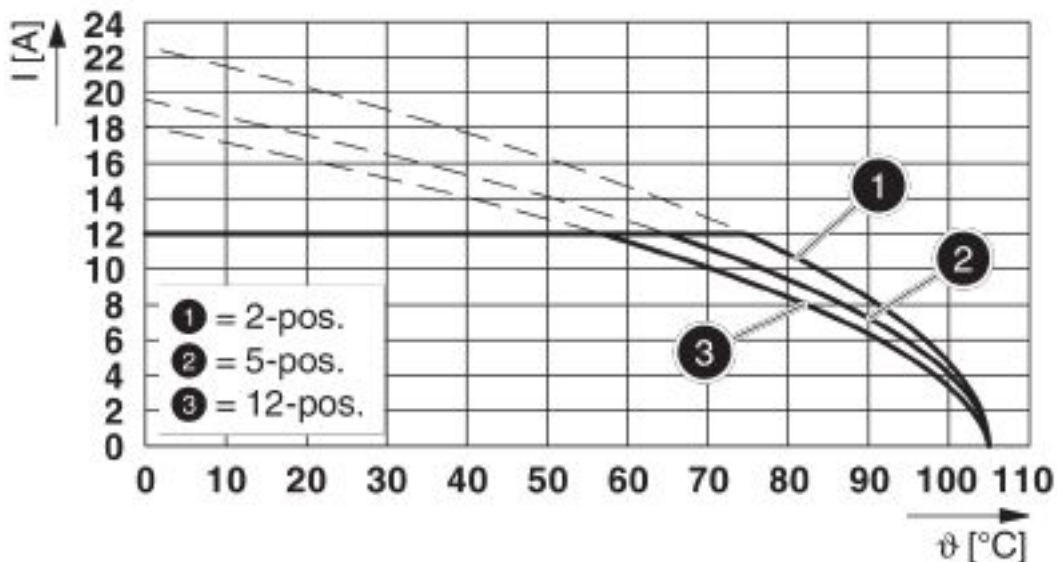
Diagram



Type: GFKC 2,5/...-ST-7,62 with GMSTBV 2,5/...-G-7,62

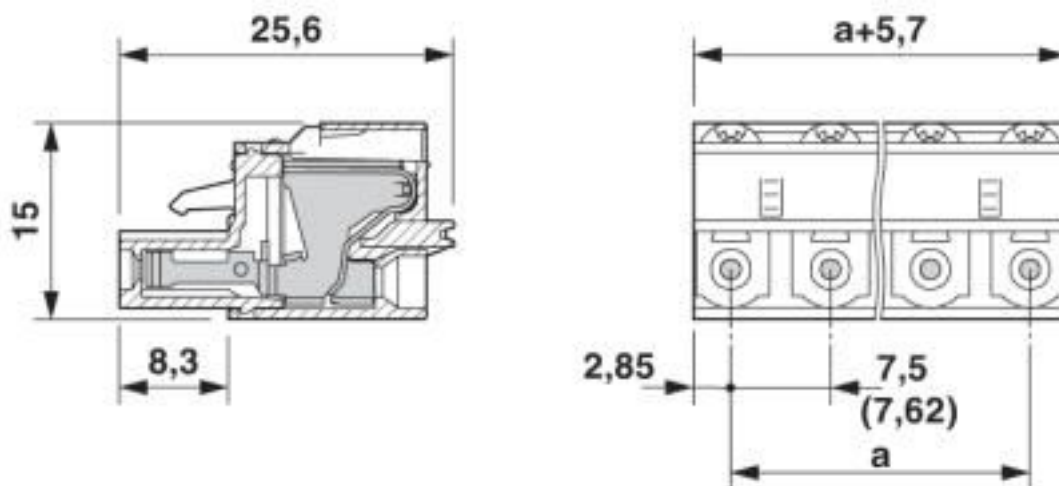
Printed-circuit board connector - GFKC 2,5/12-ST-7,5 - 1939510

Diagram



Type: GFKC 2,5/...-ST-7,5 with GMSTBVA 2,5/...-G

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

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Classifications

eCl@ss

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
UNSPSC 21.0	39121409

Approvals


Approvals

Approvals

CSA / IECCEB Scheme / EAC / cULus Recognized / VDE Zeichengenehmigung

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	12 A	10 A	
mm ² /AWG/kcmil	24-12	24-12	

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Approvals

IECEE CB Scheme	CB scheme	http://www.iecee.org/	DE1-60988-B1B2
Nominal voltage UN	400 V		
Nominal current IN	12 A		
mm ² /AWG/kcmil	0.2-2.5		

EAC	EAC	B.01687
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cULus Recognized	cULUS	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	E60425-19931013
	B	D	
Nominal voltage UN	300 V	300 V	
Nominal current IN	10 A	10 A	
mm ² /AWG/kcmil	26-12	26-12	

VDE Zeichengenehmigung		http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx	40050646
Nominal voltage UN	400 V		
Nominal current IN	12 A		
mm ² /AWG/kcmil	0.2-2.5		

Accessories

Additional products

Feed-through header - GMSTB 2,5/12-G - 1766110

PCB headers, nominal current: 12 A, rated voltage (III/2): 630 V, nominal cross section: 2.5 mm², number of positions: 12, pitch: 7.5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm



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Accessories

Feed-through header - GMSTBA 2,5/12-G - 1766440

PCB headers, nominal current: 12 A, rated voltage (III/2): 630 V, nominal cross section: 2.5 mm², number of positions: 12, pitch: 7.5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm



Feed-through header - GMSTBV 2,5/12-G - 1766550

PCB headers, nominal current: 12 A, rated voltage (III/2): 630 V, nominal cross section: 2.5 mm², number of positions: 12, pitch: 7.5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm



Feed-through header - GMSTBVA 2,5/12-G - 1766767

PCB headers, nominal current: 12 A, rated voltage (III/2): 630 V, nominal cross section: 2.5 mm², number of positions: 12, pitch: 7.5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm



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