

# Printed-circuit board connector - CCA 2,5/12-G P20 THR - 1836447

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PCB headers, nominal current: 12 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm<sup>2</sup>, number of positions: 12, pitch: 5 mm, color: black, contact surface: Tin, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2 mm, User information and design recommendations for through hole reflow technology can be found under: Downloads




The figure shows a 10-position version of the product

## Your advantages

- Designed for integration into the SMT soldering process
- Maximum flexibility when it comes to device design – one header for connectors with different connection technologies
- Closed contour for optimum stability of the plug-in connection



## Key Commercial Data

Packing unit	50 pc
Minimum order quantity	50 pc
GTIN	 4 055626 020747
GTIN	4055626020747

## Technical data

### Item properties

Brief article description	Feed-through header
Plug-in system	CLASSIC COMBICON
Type of contact	Male connector
Range of articles	CCA 2,5/..-G
Pitch	5 mm
Number of positions	12
Mounting type	THR soldering
Pin layout	Linear pinning
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	320 V
Rated voltage	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	LCP
Insulating material group	IIIa
CTI according to IEC 60112	175
Flammability rating according to UL 94	V0

### Dimensions for the product

Length [ l ]	12 mm
Width [ w ]	62.8 mm
Height [ h ]	10.57 mm
Pitch	5 mm
Height (without solder pin)	8.57 mm
Solder pin [P]	2 mm
Pin dimensions	1 x 1 mm

### Dimensions for PCB design

Hole diameter	1.6 mm
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### Packaging information

Type of packaging	packed in cardboard
Pieces per package	50

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### Packaging information

Denomination packing units	Pcs.
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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)

### 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

### Current carrying capacity / derating curves

Caption	Type: MSTB 2,5/...-ST with CCA 2,5/...-G P20 THR
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 <sub>1</sub>	1.1 mΩ
Insertion/withdrawal cycles	25
Contact resistance R <sub>2</sub>	1.2 mΩ
Impulse withstand voltage at sea level	4.8 kV
Power-frequency withstand voltage	2.21 kV
Insulation resistance, neighboring positions	> 1 TΩ

### Thermal tests (C)

Specification	IEC 60512-5-1:2002-02
Number of positions	24
Conductor cross section	2.5 mm <sup>2</sup>

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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 <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

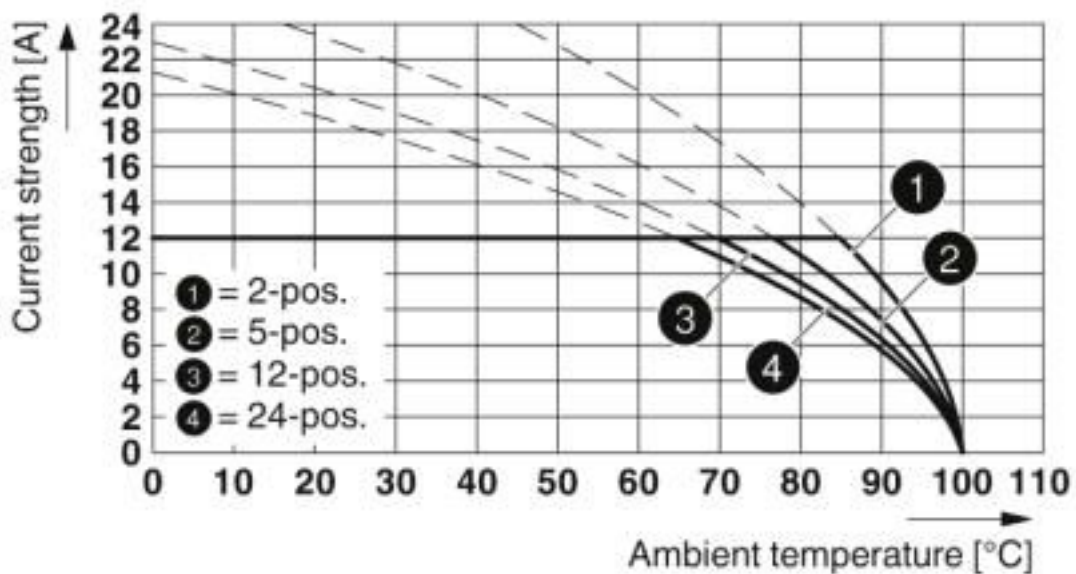
Connection in acc. with standard	EN-VDE
Flammability rating according to UL 94	V0

### Environmental Product Compliance

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

## Drawings

Diagram



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## Classifications

### eCl@ss

eCl@ss 10.0.1	27440402
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 8.0	27440402
eCl@ss 9.0	27440402

### ETIM

ETIM 5.0	EC002637
ETIM 6.0	EC002637
ETIM 7.0	EC002637

### UNSPSC

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

## Approvals


### Approvals

#### Approvals

cULus Recognized / EAC

#### Ex Approvals

### Approval details

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	16 A	10 A	

## Printed-circuit board connector - CCA 2,5/12-G P20 THR - 1836447

### Approvals

EAC		B.01687
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### Accessories

#### Accessories

#### Coding element

Coding section - CR-MSTB - 1734401

Coding section, inserted into the recess in the header or the inverted plug, red insulating material



Coding section - CR-MSTB NAT HT - 1954362

HT coding section, prior to the reflow soldering process it is inserted into the recess on the header, made from high-temperature-resistant beige insulation material



### Marker pen

Marker pen - B-STIFT - 1051993

Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm



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