

# PCB terminal block - SPT-SMD 1,5/12-V-3,81 R72 - 1824297

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



PCB terminal block, nominal current: 13.5 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, pitch: 3.81 mm, number of positions: 12, connection method: Push-in spring connection, mounting: SMD soldering, conductor/PCB connection direction: 90 °, color: black, Pin layout: Linear pad geometry. Sample values available under SAMPLE SPT...

The figure shows the 10-position version

## Your advantages

- ✓ Time saving push-in connection, tools not required
- ✓ Defined contact force ensures that contact remains stable over the long term
- ✓ Intuitive use through colour coded actuation lever
- ✓ Designed for integration into the SMT soldering process
- ✓ Operation and conductor connection from one direction enable integration into front of device
- ✓ Quick and convenient testing using integrated test option
- ✓ Two soldering spots per position reduce the mechanical strain on the soldering spots



## Key Commercial Data

Packing unit	200 pc
Minimum order quantity	200 pc
GTIN	
GTIN	4046356816397

## Technical data

### Item properties

Brief article description	PCB terminal block
Range of articles	SPT 1,5/..-V-SMD
Pitch	3.81 mm
Number of positions	12
Connection method	Push-in spring connection
Mounting type	SMD soldering
Pin layout	Linear pad geometry

# PCB terminal block - SPT-SMD 1,5/12-V-3,81 R72 - 1824297

## Technical data

### Item properties

Number of levels	1
Number of connections	12
Number of potentials	12

### Electrical parameters

Nominal current	13.5 A
Nom. voltage	160 V
Rated voltage	160 V
Rated voltage (III/2)	160 V
Rated voltage (II/2)	320 V
Rated surge voltage (III/3)	2.5 kV
Rated surge voltage (III/2)	2.5 kV
Rated surge voltage (II/2)	2.5 kV

### Connection capacity

Connection method	Push-in spring connection
Conductor cross section solid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG / kcmil	24 ... 16
Conductor cross section flexible, with ferrule without plastic sleeve	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.2 mm <sup>2</sup> ... 0.75 mm <sup>2</sup>
Stripping length	8 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 soldering area (top layer)	Tin (4 - 8 µm Sn)

### 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 ]	7.7 mm
Width [ w ]	45.91 mm
Height [ h ]	13.6 mm
Pitch	3.81 mm
Height (without solder pin)	13.6 mm

# PCB terminal block - SPT-SMD 1,5/12-V-3,81 R72 - 1824297

## Technical data

### Dimensions for the product

Pin spacing	7 mm
Pin dimensions	0.7 x 0.3 mm

### Dimensions for PCB design

Hole diameter	1.1 mm
Pin spacing	7 mm

### Packaging information

Type of packaging	72 mm wide tape
Pieces per package	200
Denomination packing units	Pcs.
[W] tape width	72 mm
[A] coil diameter	330 mm
[W2] coil overall dimension	78.4 mm
Outer packaging type	Transparent-Bag

### General product information

Type of note	Assembly instruction:
Note	This item is not suitable for PCB cleaning with liquids.

### Processing notes

Process	Reflow soldering
Specification	Following IPC/JEDEC J-STD-020D.1:2008-03
	Following IEC 60068-2-58:2005-02
Moisture Sensitive Level	MSL 1
Classification temperature T <sub>c</sub>	260 °C
Solder cycles in the reflow	3

### Ambient conditions

Ambient temperature (storage/transport)	-40 °C ... 70 °C
Ambient temperature (assembly)	-5 °C ... 100 °C
Ambient temperature (operation)	-40 °C ... 100 °C (Depending on the current carrying capacity/derating curve)

### Termination and connection method

Connection test	IEC 60998-2-2:2002-12
Test result	Test passed
Test for conductor damage and slackening	IEC 60998-2-2:2002-12
	Test passed

### Pull-out test

Pull-out test	IEC 60998-2-2:2002-12
	Test passed
Conductor cross section / conductor type / tensile force	0.2 mm <sup>2</sup> / solid / > 10 N
	0.2 mm <sup>2</sup> / flexible / > 10 N

# PCB terminal block - SPT-SMD 1,5/12-V-3,81 R72 - 1824297

## Technical data

### Pull-out test

	1.5 mm <sup>2</sup> / solid / > 40 N
	1.5 mm <sup>2</sup> / flexible / > 40 N

### Mechanical tests according to standard

Test specification	IEC 60998-2-2 (in parts)
--------------------	--------------------------

### Electrical tests

Rated current	13.5 A
Conductor cross section	1.5 mm <sup>2</sup>
Rated voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV

### 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)	1.5 mm
Minimum clearance - inhomogeneous field (III/2)	1.5 mm
Minimum clearance - inhomogeneous field (II/2)	1.5 mm
Minimum creepage distance value (III/3)	2.5 mm
Minimum creepage distance value (III/2)	1.6 mm
Minimum creepage distance value (II/2)	3.2 mm

### Temperature-rise test

Specification	IEC 60998-2-1:2002-12
Result	Test passed
Requirement temperature-rise test	Increase in temperature ≤ 45 K

### Current carrying capacity / derating curves

Caption	Type: SPT-SMD 1,5/...-V-3,5(3,81) R.. Tested in accordance with DIN EN 60512-5-2:2003-01 Reduction factor = 1 Number of positions: 5
Specification	Following IEC 60512-5-2:2002-02
Number of positions	5
Reduction factor	1

### Vibration test

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

### Resistance to ageing, humidity and penetration of solids

## PCB terminal block - SPT-SMD 1,5/12-V-3,81 R72 - 1824297

### Technical data

#### Resistance to ageing, humidity and penetration of solids

Dry heat	168 h/100°C
Humid heat	48 h/30 °C/92 %

#### Insulation resistance

Specification	IEC 60998-1:2002-12
Result	Test passed
Insulation resistance, neighboring positions	1 TΩ

#### Glow-wire test

Specification	IEC 60998-1:2002-12
Result	Test passed
Temperature	850 °C
Time of exposure	5 s

#### Mechanical strength/tumbling barrel test

Specification	IEC 60998-1:2002-12
Height of fall	50 cm
Number of drop cycles	50
Rotation speed	5 rpm

#### Standards and Regulations

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

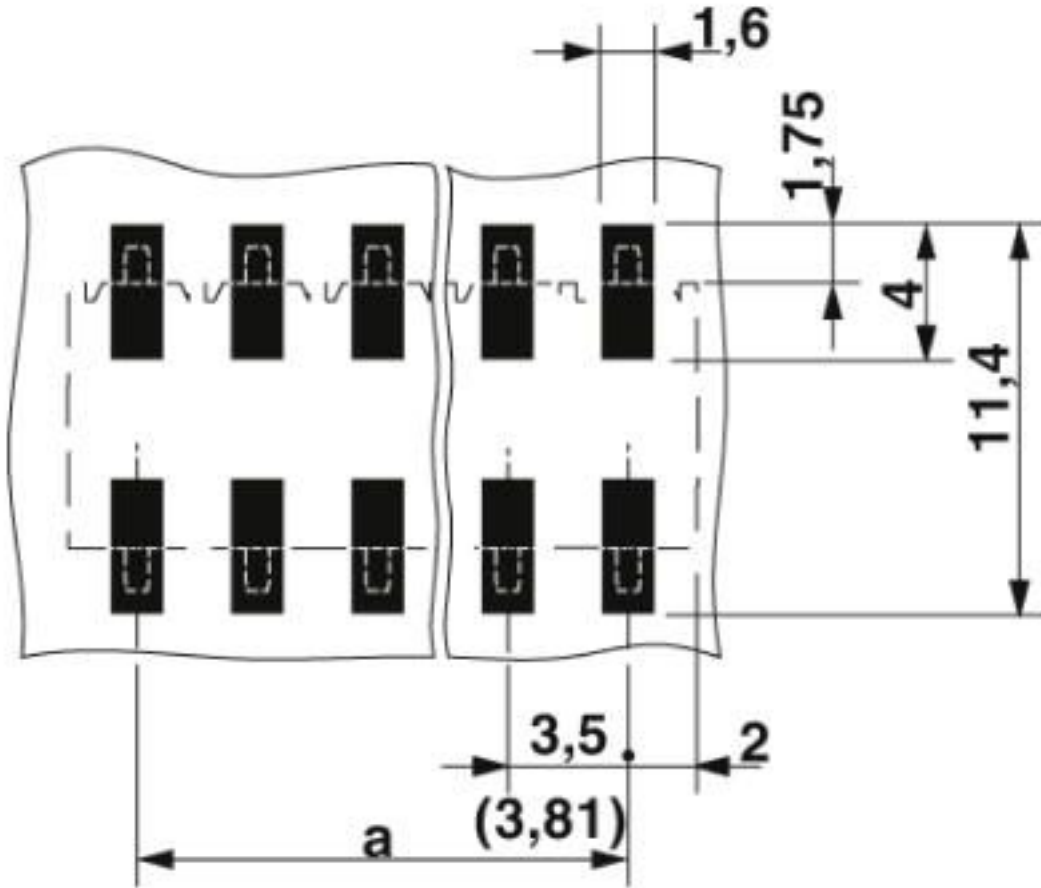
#### Environmental Product Compliance

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

### Drawings

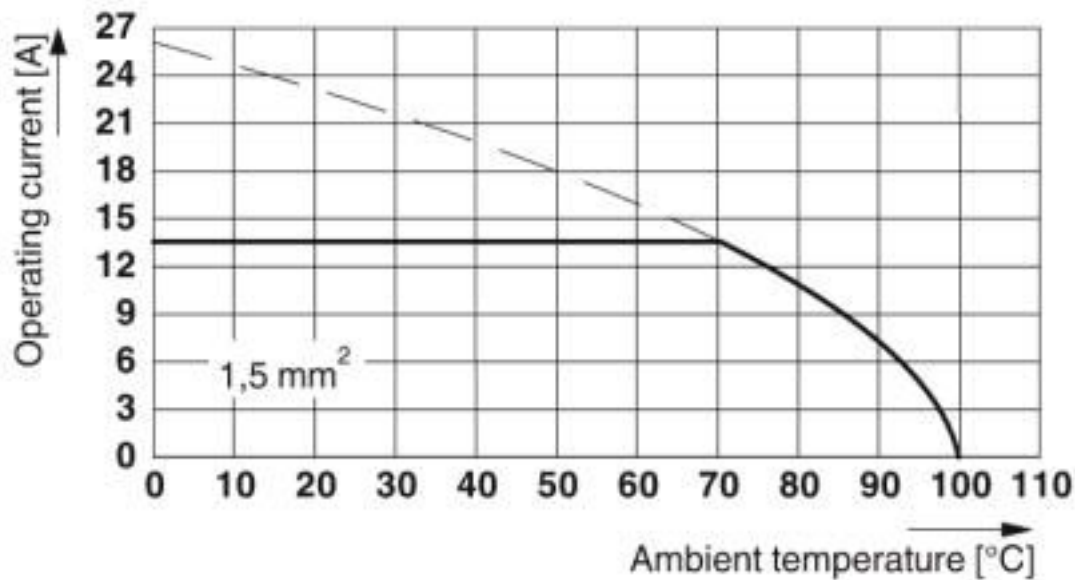
# PCB terminal block - SPT-SMD 1,5/12-V-3,81 R72 - 1824297

Drilling diagram



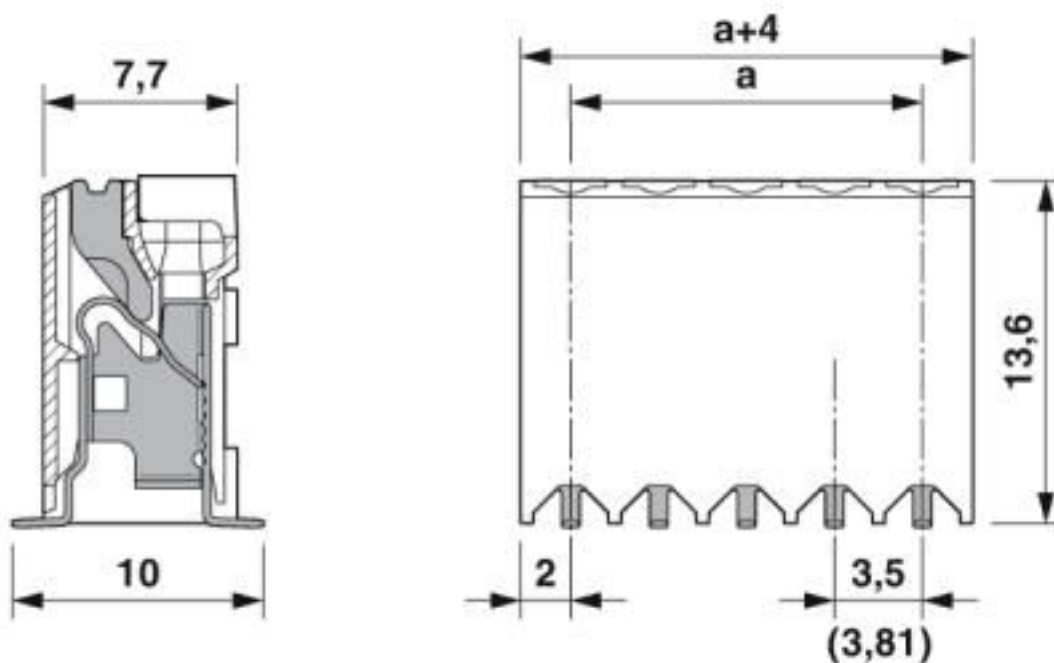
# PCB terminal block - SPT-SMD 1,5/12-V-3,81 R72 - 1824297

Diagram



Type: SPT-SMD 1,5/...-V-3,5(3,81) R..  
Tested in accordance with DIN EN 60512-5-2:2003-01  
Reduction factor = 1  
Number of positions: 5

Dimensional drawing



# PCB terminal block - SPT-SMD 1,5/12-V-3,81 R72 - 1824297

## Classifications

### eCl@ss

eCl@ss 10.0.1	27440401
eCl@ss 4.0	27141100
eCl@ss 4.1	27141100
eCl@ss 5.0	27141100
eCl@ss 5.1	27261100
eCl@ss 6.0	27261100
eCl@ss 7.0	27440401
eCl@ss 8.0	27440401
eCl@ss 9.0	27440401

### ETIM

ETIM 3.0	EC001121
ETIM 4.0	EC002643
ETIM 5.0	EC002643
ETIM 6.0	EC002643
ETIM 7.0	EC002643

### UNSPSC

UNSPSC 6.01	30211801
UNSPSC 7.0901	39121432
UNSPSC 11	39121432
UNSPSC 12.01	39121432
UNSPSC 13.2	39121432
UNSPSC 18.0	39121432
UNSPSC 19.0	39121432
UNSPSC 20.0	39121432
UNSPSC 21.0	39121432

## Approvals

### Approvals

---

#### Approvals

IECEE CB Scheme / VDE Zeichengenehmigung / EAC / cULus Recognized

---

#### Ex Approvals

---

### Approval details



# PCB terminal block - SPT-SMD 1,5/12-V-3,81 R72 - 1824297

## Approvals

IECEE CB Scheme		<a href="http://www.iecee.org/">http://www.iecee.org/</a>	DE1-60621
Nominal voltage UN	160 V		
Nominal current IN	13.5 A		
mm <sup>2</sup> /AWG/kcmil	0.2-1.5		

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>	40046113
Nominal voltage UN	160 V		
Nominal current IN	13.5 A		
mm <sup>2</sup> /AWG/kcmil	0.2-1.5		

EAC			B.01687
-----	--	--	---------

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>	E60425-20061129
	B	D	
Nominal voltage UN	300 V	300 V	
Nominal current IN	10 A	10 A	
mm <sup>2</sup> /AWG/kcmil	24-16	24-16	

## Accessories

### Accessories

#### Cable end sleeve

Ferrule - A 0,5 - 8 - 3202481



Ferrule, length: 8 mm, color: silver

## PCB terminal block - SPT-SMD 1,5/12-V-3,81 R72 - 1824297

### Accessories

Ferrule - A 0,75- 8 - 3202504



Ferrule, length: 8 mm, color: silver

---

Ferrule - A 1 - 8 - 3202517



Ferrule, length: 8 mm, color: silver

---

Ferrule - AI 0,25- 8 YE - 3203037



Ferrule, sleeve length: 8 mm, length: 12.5 mm, color: yellow

---

Ferrule - AI 0,5 - 8 WH - 3200014



Ferrule, sleeve length: 8 mm, length: 14 mm, color: white

---

Ferrule - AI 0,5 - 8 WH -1000 - 3200881



Ferrule, sleeve length: 8 mm, length: 14 mm, color: white

---

## PCB terminal block - SPT-SMD 1,5/12-V-3,81 R72 - 1824297

### Accessories

Ferrule - AI 0,75- 8 GY - 3200519



Ferrule, sleeve length: 8 mm, length: 14 mm, color: gray

Ferrule - AI 0,75- 8 GY -1000 - 3200894



Ferrule, sleeve length: 8 mm, length: 14 mm, color: gray

### Crimping tool

Crimping pliers - CRIMPFOX 6 - 1212034



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm<sup>2</sup> ... 6.0 mm<sup>2</sup>, lateral entry, trapezoidal crimp

### Printed circuit board terminal

Sample set - SAMPLE SPT-SMD 1,5/12-V-3,81 - 1843508



PCB terminal block, nominal current: 13.5 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, pitch: 3.81 mm, number of positions: 12, connection method: Push-in spring connection, mounting: SMD soldering, conductor/PCB connection direction: 90 °, color: black, Pin layout: Linear pad geometry. SAMPLE set with 5 items in belt section. When used as part of soldering process, please use items without SAMPLE marking

### Screwdriver tools

Screwdriver - SZS 0,4X2,5 VDE - 1205037



Screwdriver, slot-headed, VDE insulated, size: 0.4 x 2.5 x 80 mm, 2-component grip, with non-slip grip

Phoenix Contact 2020 © - all rights reserved  
<http://www.phoenixcontact.com>

PHOENIX CONTACT GmbH & Co. KG  
Flachmarktstr. 8  
32825 Blomberg  
Germany  
Tel. +49 5235 300  
Fax +49 5235 3 41200  
<http://www.phoenixcontact.com>

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Fixed Terminal Blocks](#) category:*

*Click to view products by [Phoenix Contact](#) manufacturer:*

Other Similar products are found below :

[MBE-1512](#) [MBE-154](#) [MBE-156](#) [MBES-153](#) [MBES-156](#) [MH-2512](#) [MHE-132](#) [MHE-163](#) [MI-254 \(35\)](#) [MI-272](#) [880507](#) [MPT-275](#)  
[15602-04-08-21](#) [BA311TU](#) [BA411SU](#) [MV-152](#) [MV-252-D](#) [MV-253/NCNOC](#) [MV-254-D](#) [MV-255](#) [MV-462](#) [MV-493](#) [MVE-252](#) [MVE-253](#)  
[MVE-273](#) [MVEB-153](#) [1700096](#) [1705142](#) [1712417](#) [1713020](#) [1713088](#) [1745195](#) [1760594](#) [1776118-2](#) [1790852](#) [1-796689-8](#) [1-796692-6](#)  
[1800001](#) [1800114](#) [1995279](#) [20020314-C121B01LF](#) [20020316-G041B01LF](#) [CB2-12](#) [KP03215000J0G](#) [KP04215000J0G](#) [S451](#) [282802-2](#)  
[29.007](#) [29.116](#) [30.103](#)