

PCB terminal block - SPTAF 1/ 9-3,5-LL - 1864354

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PCB terminal block, nominal current: 13.5 A, rated voltage (III/2): 160 V, nominal cross section: 1 mm², pitch: 3.5 mm, number of positions: 9, connection method: Push-in spring connection, mounting: Wave soldering, conductor/PCB connection direction: 45 °, color: green, Pin layout: Linear double pinning, Solder pin [P]: 2.6 mm



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
- Finger-operated and fixable release button for very convenient operation
- Small component size for applications where space is at a premium
- Quick and convenient testing using integrated test option



Key Commercial Data

Packing unit	50 pc
GTIN	
GTIN	4055626246536

Technical data

Item properties

Brief article description	PCB terminal block
Range of articles	SPTAF 1/..-LL
Pitch	3.5 mm
Number of positions	9
Connection method	Push-in spring connection
Mounting type	Wave soldering
Pin layout	Linear double pinning
Number of levels	1
Number of connections	9
Number of potentials	9

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Technical data

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 ² ... 0.75 mm ² (When connecting and possibly adjusting a solid conductor of 1 mm ² , the mechanical lateral forces, which can affect the terminal block, have to be absorbed by lateral support.)
Conductor cross section flexible	0.2 mm ² ... 1 mm ²
Conductor cross section AWG / kcmil	24 ... 18
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 0.5 mm ²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 0.5 mm ²
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 (2 - 4 µm Sn)
Metal surface soldering area (top layer)	Tin (2 - 4 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

Dimensions for the product

Length [l]	11 mm
Width [w]	33 mm
Height [h]	13.5 mm
Pitch	3.5 mm
Height (without solder pin)	10.9 mm
Solder pin [P]	2.6 mm
Pin spacing	5 mm
Pin dimensions	0.75 x 0.3 mm

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Dimensions for PCB design

Hole diameter	1.1 mm
Pin spacing	5 mm

Packaging information

Type of packaging	packed in cardboard
Pieces per package	50
Denomination packing units	Pcs.

General product information

Type of note	Note on application
Note	Maximum permissible outer diameter of the wire insulation ≤ 3 mm

Processing notes

Process	Wave soldering
Specification	Following IEC 61760-1:2006-04
	Following IEC 60068-2-54:2006-04

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 – 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
	0.25 mm ² / flexible / > 10 N
	1.5 mm ² / solid / > 40 N
	1.5 mm ² / flexible / > 40 N

Mechanical tests according to standard

Test specification	IEC 60947-7-4
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Electrical tests

Rated current	13.5 A
Conductor cross section	1 mm ²
Rated voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV

Air clearances and creepage distances

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Air clearances and creepage distances

Clearances and creepage distances	IEC 60947-1:2007-06 + A1:2010-12
Specification	IEC 60947-1:2007-06 + A1:2010-12
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 mm
Minimum creepage distance value (III/2)	0.8 mm
Minimum creepage distance value (II/2)	1.6 mm

Temperature-rise test

Specification	IEC 60947-7-4:2013-08
Result	Test passed
Requirement temperature-rise test	The sum of ambient temperature and temperature rise of the PCB terminal block shall not exceed the upper limiting temperature.

Current carrying capacity / derating curves

Caption	Type: SPTAF 1/...-3,5-LL
Specification	IEC 60947-7-4:2013-08
Number of positions	4
Reduction factor	1
Note	Representation based on IEC 60512-5-2:2002-02

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

Insulation resistance

Specification	IEC 60512-3-1:2002-02
Result	Test passed
Insulation resistance, neighboring positions	> 0.5 TΩ

Glow-wire test

Specification	IEC 60695-2-10:2013-04
Result	Test passed
Temperature	850 °C
Time of exposure	5 s

Alternating climate test

Result	Test passed
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Technical data

Alternating climate test

Specification	ISO 6988:1985-02
Corrosive stress	KFW 0.2 S/1 cycle

Standards and Regulations

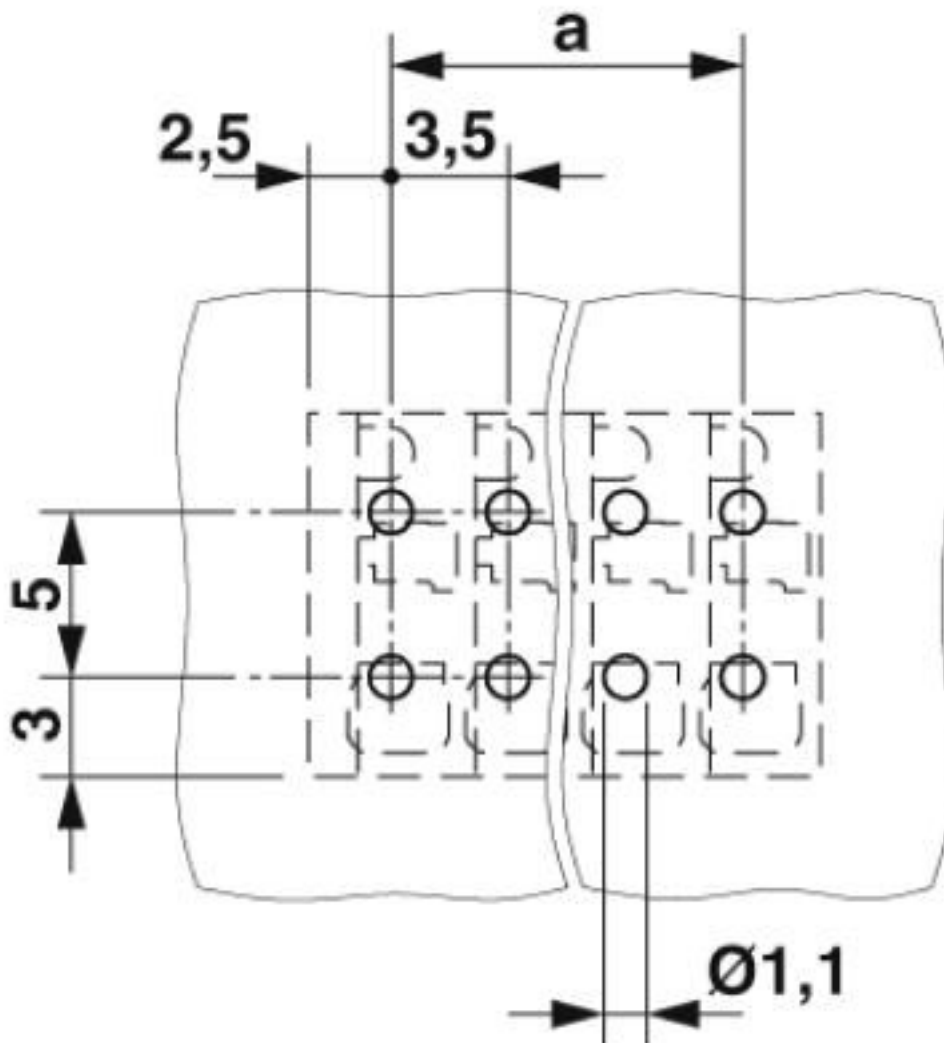
Connection in acc. with standard	EN-VDE
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Environmental Product Compliance

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

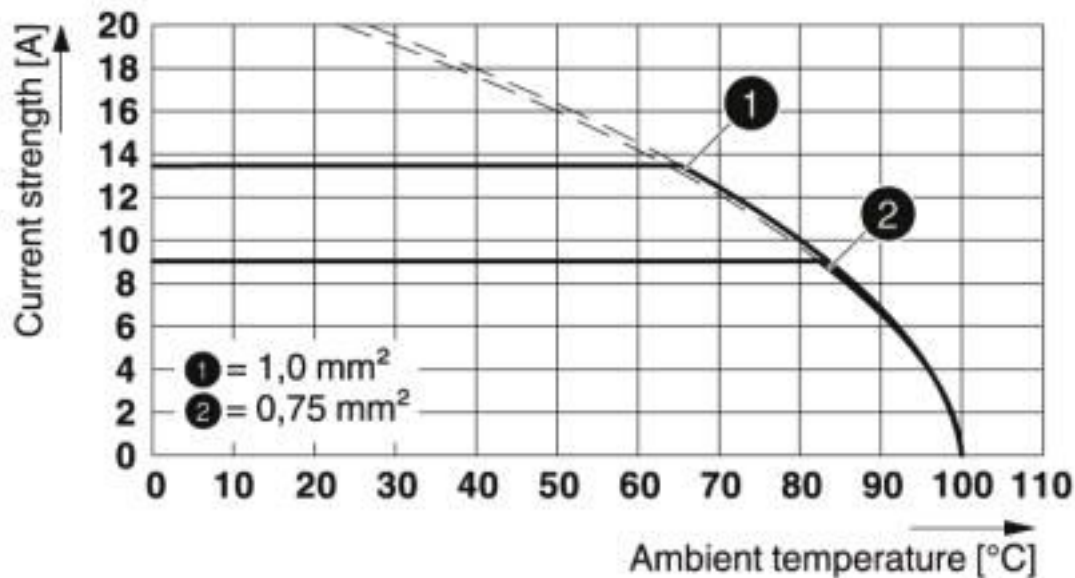
Drawings

Drilling diagram



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Diagram



Type: SPTAF 1/...-3,5-LL

Classifications

eCl@ss

eCl@ss 10.0.1	27440401
eCl@ss 5.0	27260701
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 5.0	EC002643
ETIM 6.0	EC002643
ETIM 7.0	EC002643

UNSPSC

UNSPSC 13.2	39121432
UNSPSC 18.0	39121432
UNSPSC 19.0	39121432
UNSPSC 20.0	39121432
UNSPSC 21.0	39121432

Approvals

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Approvals

Approvals

IECEE CB Scheme / VDE Zeichengenehmigung / cULus Recognized / EAC

Ex Approvals

Approval details

IECEE CB Scheme		http://www.iecee.org/	DE1-61914
Nominal voltage UN		160 V	
Nominal current IN		13.5 A	
mm ² /AWG/kcmil		0.2-1	

VDE Zeichengenehmigung		http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx	40047107
Nominal voltage UN		160 V	
Nominal current IN		13.5 A	
mm ² /AWG/kcmil		0.2-1	

cULus Recognized		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	E60425-20061129
Nominal voltage UN		B 300 V	D 300 V
Nominal current IN		7 A	7 A
mm ² /AWG/kcmil		24-18	24-18

EAC		B.01687
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Accessories

Accessories

Crimping tool

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Accessories

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 mm² ... 6.0 mm², lateral entry, trapezoidal crimp

Screwdriver tools

Screwdriver - SZF 0-0,4X2,5 - 1204504



Actuation tool, for ST terminal blocks, also suitable for use as a bladed screwdriver, size: 0.4 x 2.5 x 75 mm, 2-component grip, with non-slip grip

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