2017-10-10
Product version 02
Document revision 0

Data sheet

Order No.: 1989751

Type: PTSA 0,5/ 3-2,5-F

PCB terminal block, Push-in spring connection

The figure shows a 10-position version of the product

1 Main features

- No. of pos. 3
- Conductor cross section 0.5 mm²
- Color green
- Pitch 2.5 mm
- Connection method Push-in spring connection
- Nominal current 2 A
- Nominal voltage 250 V
- Connection direction 45 °
- Type of packaging packed in cardboard

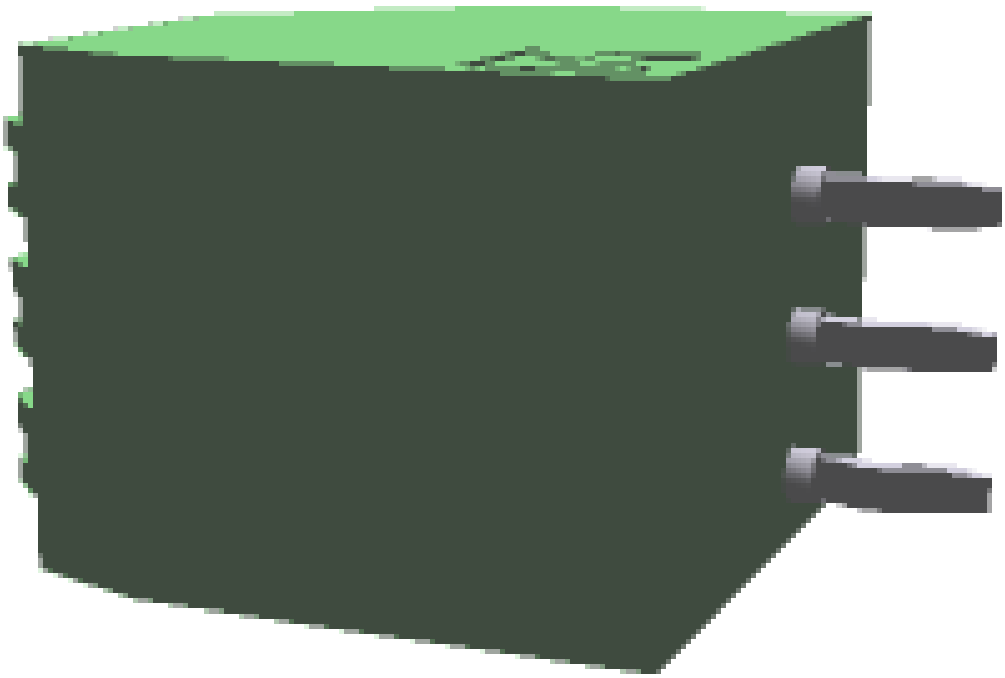
2 Your advantages

- Time saving push-in connection, tools not required
- Defined contact force ensures that contact remains stable over the long term
- Angled connection enables multi-row arrangement on the PCB

Make sure you always use the latest documentation.
It can be downloaded at: phoenixcontact.net/product/1989751

3 Table of contents

4 3D model in PDF can be activated (Acrobat Reader only)



5 item properties

Order No.	1989751
Type	PTSA 0,5/ 3-2,5-F
Range of articles	PTSA 0,5
Pitch	2.5 mm
Number of positions	3
Connection method	Push-in spring connection
Mounting type	Wave soldering
Pin layout	Linear pinning
Product note	Soldering legs in front area, one-rowed

5.1 Connection capacity

Conductor cross section, solid	0.14 mm² to 0.5 mm²
Conductor cross section, flexible	0.2 mm² to 0.5 mm²
Conductor cross section AWG/kcmil	24 to 20
Stripping length	9 mm

5.2 Material data

Material of metal parts	
Note	WEEE/RoHS-compliant, whisker-free acc. to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Terminal point surface	Sn 4 µm ... 8 µm
Soldering area surface	Sn 4 µm ... 8 µm
Surface characteristics	hot-dip tin-plated

Insulating material data	Housing	
Insulating material	PA	PA
CTI according to IEC 60112	600	600
Flammability rating according to UL 94	V0	V0
Color	green (6021)	
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	

6 Dimensions

6.1 Dimensions for the product

Length	12 mm
Width	9 mm
Height (without solder pin)	13.1 mm
Total height	16.7 mm
Solder pin [P]	3.6 mm
Dimension a	5 mm

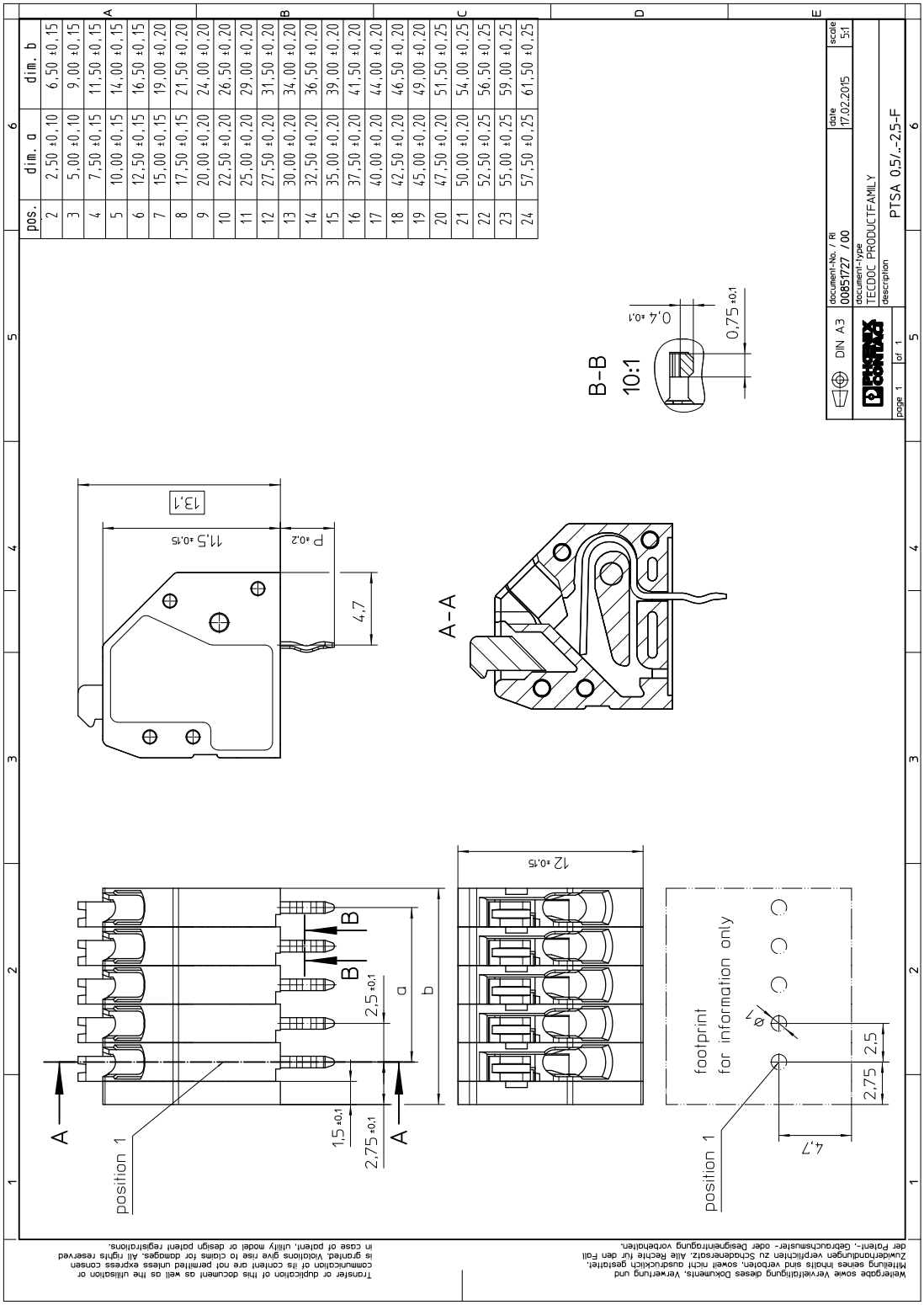
6.2 Dimensions for PCB design

1989751 PTSA 0,5/ 3-2,5-F

Hole diameter	1 mm
Pin dimensions	0,4 x 0,75 mm
Pin spacing	2.5 mm

1989751 PTSA 0,5/ 3-2,5-F

7 Series drawing



8 Packaging information

Type of packaging	packed in cardboard
Pieces per package	250

9 Application

9.1 Temperature limit values

Ambient temperature (storage/transport)	-40 °C ... 70 °C
Ambient temperature (assembly)	-5 °C ... 55 °C
Ambient temperature (operation)	-40 °C ... 85 °C

10 Mechanical tests

10.1 Connection test

Specification	IEC 60998-2-2:1991-10
Result	Test passed

10.2 Electrical performance test

Specification	IEC 60998-2-2:1991-10
Result	Test passed

10.3 Check for damage to conductor or loosening

Specification	IEC 60998-2-2:1991-10
Result	Test passed

10.4 Pull-out test

Specification	IEC 60998-2-2:1991-10
Result	Test passed
Conductor cross section/conductor type/tractive force actual value	0.14 mm^2 / solid / > 7 N
Conductor cross section/conductor type/tractive force actual value	0.2 mm^2 / stranded / > 10 N
Conductor cross section/conductor type/tractive force actual value	0.5 mm^2 / solid / > 30 N
Conductor cross section/conductor type/tractive force actual value	0.5 mm^2 / stranded / > 30 N

11 Electrical tests

11.1 Electrical data

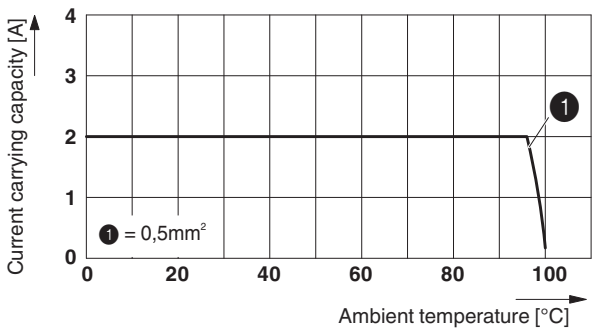
Rated current / conductor cross section	2 A / 0.5 mm²
Rated insulation voltage (III/2)	250 V
Rated surge voltage (III/2)	2.5 kV
Contact resistance	2.6 mΩ
Degree of pollution	2

11.2 Temperature rise test

Specification	IEC 60998-2-1:1990-04
Result	Test passed
Requirement temperature-rise test	Increase in temperature ≤ 45 K
Conductor cross section/test current/temperature rise	0.5 mm² / 2 A / 3 K

Specification	Following IEC 60512-5-2:2002-02
Result	Test passed
Conductor cross section/test current/temperature rise	0.5 mm² / 2 A / 5 K

Derating diagram for 5 pins;reduction factor=1



12 Environmental and durability tests

12.1 Resistance to ageing, humidity and penetration of solids

Specification	IEC 60998-2-2:1991-10
Result	Test passed
Dry heat	168 h/100°C
Damp heat	48 h/30 °C/92 %

12.2 Insulation resistance

Specification	IEC 60998-2-2:1991-10
Result	Test passed
Insulation resistance, neighboring positions	10^9 Ω

12.3 Test of the power frequency electric strength

Specification	IEC 60998-2-2:1991-10
Result	Test passed
Test voltage between neighboring positions	2 kV

12.4 Glow-wire test

Specification	IEC 60998-2-2:1991-10
Result	Test passed
Temperature	850 °C
Time of exposure	5 s

12.5 Mechanical strength/tumbling barrel

Specification	IEC 60998-1:1990-04
Result	Test passed
Height of fall	50 cm
Number of drop cycles	50

12.6 Vibration test

Specification	IEC 60068-2-6:1995-03
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
Test directions	X-, Y- and Z-axis

12.7 Testing in a saturated atmosphere in the presence of sulfur dioxide

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Specification	DIN 50018-EN:1997-06
Result	Test passed
Corrosive stress	KFW 1.0 S/1 cycle
Conductor cross section	0.2 mm² to 0.5 mm²

Specification	IEC 61032:1997-12
Note	unenclosed basic insulation - protected against finger contact with IP20 test finger in acc. with IEC 60529 when connected, above the PCB

13 Type approval and special tests

14 Approvals

UL Recognized				
Use group	B	D		
mm²/AWG/kcmil	26-20	26-20		
Voltage	150 V	300 V		
Current	2 A	2 A		

VDE Gutachten mit Fertigungsüberwachung				
mm²/AWG/kcmil	0.5			
Voltage	130 V			
Current	2 A			

cUL Recognized				
Use group	B	D		
mm²/AWG/kcmil	26-20	26-20		
Voltage	150 V	300 V		
Current	2 A	2 A		

CCA				
mm²/AWG/kcmil	0.5			
Voltage				
Current	2 A			

EAC

cULus Recognized

15 Commercial Data

Order No.	1989751
Type	PTSA 0,5/ 3-2,5-F
Pieces per package	250
Net weight	1.16 g
GTIN	4017918973353
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

16 Accessories

Description	Order No.	Type
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	1204504	SZF 0-0,4X2,5