

1821041

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Printed circuit board terminal, nominal current: 6 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm², number of potentials: 7, number of rows: 1, number of positions per row: 7, product range: PTSM 0,5/..-V-SMD WH, pitch: 2.5 mm, connection method: Push-in spring connection, mounting: SMD soldering, conductor/PCB connection direction: 90 °, color: signal white, Pin layout: Linear pad geometry, Solder pin [P]: 2 mm, number of solder pins per potential: 1, type of packaging: packed in cardboard. SAMPLE set with 5 items in belt section. When used as part of soldering process, please use items without SAMPLE marking

### Your advantages

- · White design: Stable color when welding and during use
- · Time saving push-in connection, tools not required
- · Defined contact force ensures that contact remains stable over the long term
- · High current carrying capacity of 6 A in very compact dimensions
- · Designed for integration into the SMT soldering process
- · Vertical connection enables multi-row arrangement on the PCB
- · Additional solder anchors reduce the mechanical strain on the soldering spots

#### Commercial data

Item number	1821041
Packing unit	5 pc
Minimum order quantity	5 pc
Note	Made to order (non-returnable)
Product key	AAKDAD
GTIN	4046356787734
Weight per piece (including packing)	2.3 g
Weight per piece (excluding packing)	2.3 g
Customs tariff number	85369010
Country of origin	DE



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### Technical data

### Product properties

Product type	Printed circuit board terminal
Product family	PTSM 0,5/V-SMD WH
Product line	COMBICON Terminals XS
Number of positions	7
Pitch	2.5 mm
Number of connections	7
Number of rows	1
Number of potentials	7
Pin layout	Linear pad geometry
Solder pins per potential	1
Data management status	
Article revision	00

### Electrical properties

Nominal current I <sub>N</sub>	6 A
Nominal voltage U <sub>N</sub>	160 V
Rated voltage (III/3)	63 V
Rated surge voltage (III/3)	2.5 kV
Rated voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
Rated voltage (II/2)	320 V
Rated surge voltage (II/2)	2.5 kV

### Connection data

### Connection technology

Nominal cross section	0.5 mm²
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Conductor connection	
Connection method	Push-in spring connection
Conductor cross section rigid	0.14 mm² 0.5 mm²
Conductor cross section flexible	0.2 mm <sup>2</sup> 0.5 mm <sup>2</sup> (up to 0.75 mm <sup>2</sup> supported, with a stripping length of 7.5 mm and a rated insulation voltage of 32 V at III/2)
Conductor cross section AWG	26 20
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm² 0.5 mm²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> 0.34 mm <sup>2</sup> (possible from 0.14 mm <sup>2</sup> , when using ferrule AI 0.14- 6 GY in combination with crimping pliers CRIMPFOX 10T-F)
Cylindrical gauge a x b / diameter	- / 1.2 mm
Stripping length	6 mm



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### Mounting

Mounting type	SMD soldering
Pin layout	Linear pad geometry
Processing notes	
Process	Reflow soldering
Moisture Sensitive Level	MSL 1
Classification temperature T <sub>c</sub>	260 °C
Solder cycles in the reflow	3

### Material specifications

### 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

Color (Housing)	signal white (9003)
Insulating material	PA GF
Insulating material group	I
CTI according to IEC 60112	600
Flammability rating according to UL 94	V0

### Notes

Note on application	Pick and place pads may protrude beyond the components. The PCB layout must ensure that collisions are avoided when components are assembled.
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### **Dimensions**

Pitch       2.5 mm         Width [w]       22.6 mm         Height [h]       9 mm         Length [l]       7 mm         Installed height       9 mm         Solder pin length [P]       2 mm	Dimensional drawing	h P
Height [h]         9 mm           Length [l]         7 mm           Installed height         9 mm	Pitch	2.5 mm
Length [I]7 mmInstalled height9 mm	Width [w]	22.6 mm
Installed height 9 mm	Height [h]	9 mm
	Length [I]	7 mm
Solder pin length [P] 2 mm	Installed height	9 mm
	Solder pin length [P]	2 mm

### PCB design



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Pad geometry

r ad geometry	1.4 X 0.4 Hilli
Pin spacing	2.5 mm
chanical tests	
Charlical tests	
Connection test	
Specification	IEC 60998-2-2:2002-12
Result	Test passed
est for conductor damage and slackening	
Specification	IEC 60998-2-2:2002-12
Result	Test passed
Pull-out test	
Specification	IEC 60998-2-2:2002-12
Conductor cross section/conductor type/tractive force	0.14 mm² / solid / > 10 N
setpoint/actual value	0.2 mm² / flexible / > 10 N
	0.5 mm² / solid / > 20 N
	0.75 mm² / flexible / > 30 N
Flexion test	
Specification	IEC 60998-2-2:2002-12
Result	Test passed
ectrical tests	
ectrical tests  Femperature-rise test	
	IEC 60998-2-1:2002-12
emperature-rise test	IEC 60998-2-1:2002-12 Increase in temperature ≤ 45 K
Emperature-rise test Specification	
Emperature-rise test Specification Requirement temperature-rise test	
Specification Requirement temperature-rise test	Increase in temperature ≤ 45 K
Specification Requirement temperature-rise test  nsulation resistance Specification	Increase in temperature ≤ 45 K  IEC 60998-1:2002-12
Specification Requirement temperature-rise test  nsulation resistance Specification Insulation resistance, neighboring positions	Increase in temperature ≤ 45 K  IEC 60998-1:2002-12
Specification Requirement temperature-rise test  sulation resistance Specification Insulation resistance, neighboring positions  Air clearances and creepage distances	Increase in temperature ≤ 45 K  IEC 60998-1:2002-12  > 5 MΩ
Specification Requirement temperature-rise test  Insulation resistance Specification Insulation resistance, neighboring positions  Air clearances and creepage distances   Specification	Increase in temperature ≤ 45 K  IEC 60998-1:2002-12  > 5 MΩ  IEC 60664-1:2007-04
Specification Requirement temperature-rise test  nsulation resistance Specification Insulation resistance, neighboring positions  Air clearances and creepage distances   Specification Insulating material group	Increase in temperature ≤ 45 K  IEC 60998-1:2002-12  > 5 MΩ  IEC 60664-1:2007-04  I
Specification Requirement temperature-rise test  Insulation resistance Specification Insulation resistance, neighboring positions  Air clearances and creepage distances   Specification Insulating material group Comparative tracking index (IEC 60112)	Increase in temperature ≤ 45 K  IEC 60998-1:2002-12  > 5 MΩ  IEC 60664-1:2007-04  I  CTI 600
Specification Requirement temperature-rise test  Insulation resistance Specification Insulation resistance, neighboring positions  Air clearances and creepage distances   Specification Insulating material group Comparative tracking index (IEC 60112) Rated insulation voltage (III/3)	Increase in temperature ≤ 45 K  IEC 60998-1:2002-12  > 5 MΩ  IEC 60664-1:2007-04  I  CTI 600  63 V
Specification Requirement temperature-rise test  Insulation resistance Specification Insulation resistance, neighboring positions  Air clearances and creepage distances   Specification Insulating material group Comparative tracking index (IEC 60112) Rated insulation voltage (III/3) Rated surge voltage (III/3)	Increase in temperature ≤ 45 K  IEC 60998-1:2002-12  > 5 MΩ  IEC 60664-1:2007-04  I  CTI 600  63 V  2.5 kV
Specification Requirement temperature-rise test  Insulation resistance Specification Insulation resistance, neighboring positions  Air clearances and creepage distances   Specification Insulating material group Comparative tracking index (IEC 60112) Rated insulation voltage (III/3) Rated surge voltage (III/3) minimum clearance value - non-homogenous field (III/3)	Increase in temperature ≤ 45 K  IEC 60998-1:2002-12  > 5 MΩ  IEC 60664-1:2007-04  I  CTI 600  63 V  2.5 kV  1.5 mm
Specification Requirement temperature-rise test  Insulation resistance Specification Insulation resistance, neighboring positions  Air clearances and creepage distances   Specification Insulating material group Comparative tracking index (IEC 60112) Rated insulation voltage (III/3) Rated surge voltage (III/3) minimum creepage distance (III/3)	Increase in temperature ≤ 45 K  IEC 60998-1:2002-12  > 5 MΩ  IEC 60664-1:2007-04  I  CTI 600  63 V  2.5 kV  1.5 mm  1.6 mm
Specification Requirement temperature-rise test  Insulation resistance Specification Insulation resistance, neighboring positions  Air clearances and creepage distances   Specification Insulating material group Comparative tracking index (IEC 60112) Rated insulation voltage (III/3) Rated surge voltage (III/3) minimum clearance value - non-homogenous field (III/3) minimum creepage distance (III/3) Rated insulation voltage (III/2)	Increase in temperature ≤ 45 K  IEC 60998-1:2002-12  > 5 MΩ  IEC 60664-1:2007-04  I  CTI 600  63 V  2.5 kV  1.5 mm  1.6 mm  160 V
Specification Requirement temperature-rise test  Insulation resistance Specification Insulation resistance, neighboring positions  Air clearances and creepage distances   Specification Insulating material group Comparative tracking index (IEC 60112) Rated insulation voltage (III/3) Rated surge voltage (III/3) minimum creepage distance (III/3) Rated insulation voltage (III/2) Rated surge voltage (III/2) Rated surge voltage (III/2)	Increase in temperature ≤ 45 K  IEC 60998-1:2002-12  > 5 MΩ  IEC 60664-1:2007-04  I  CTI 600  63 V  2.5 kV  1.5 mm  1.6 mm  160 V  2.5 kV

1.4 x 3.4 mm



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Rated surge voltage (II/2)	2.5 kV
minimum clearance value - non-homogenous field (II/2)	1.5 mm
minimum creepage distance (II/2)	1.6 mm

### Environmental and real-life conditions

#### Vibration test

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

#### Glow-wire test

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

#### Ambient conditions

Ambient temperature (operation)	-40 °C 100 °C (Depending on the current carrying capacity/derating curve)
Ambient temperature (storage/transport)	-40 °C 70 °C
Relative humidity (storage/transport)	30 % 70 %
Ambient temperature (assembly)	-5 °C 100 °C

### Packaging specifications

Type of packaging	packed in cardboard

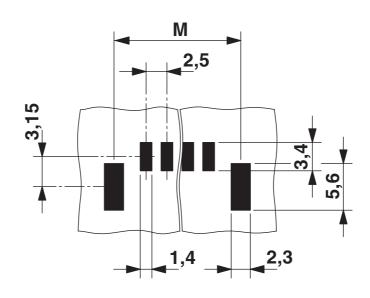


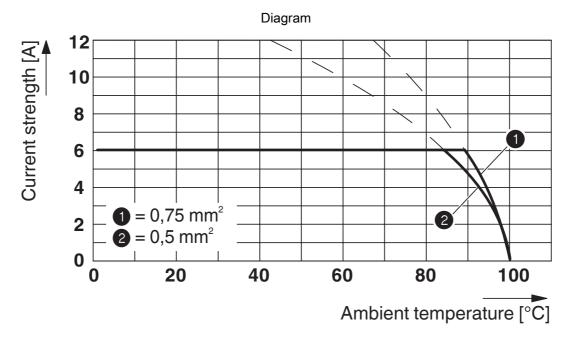
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### **Drawings**

### Drilling plan/solder pad geometry





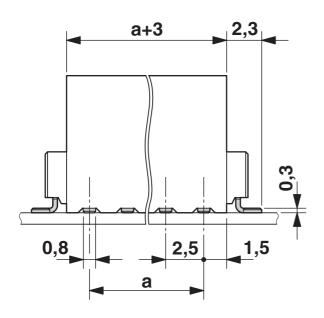
Type: PTSM 0,5/...-2,5-V SMD WH R44
Tested in accordance with DIN EN 60512-5-2:2003-01
Reduction factor = 1
Number of positions: 5

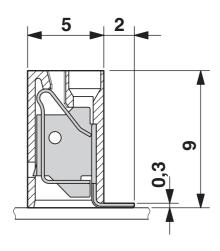


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### Dimensional drawing







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### Classifications

### **ECLASS**

	ECLASS-11.0	27460101		
	ECLASS-12.0	27460101		
	ECLASS-13.0	27460101		
ETIM				
	ETIM 9.0	EC002643		
UNSPSC				
	UNSPSC 21.0	39121400		



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### Environmental product compliance

#### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
China RoHS	
Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits
EU REACH SVHC	
REACH candidate substance (CAS No.)	No substance above 0.1 wt%

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