

PTSM 0,5/ 6-HV-2,5-THR WH R32 - PCB header



1815303

<https://www.phoenixcontact.com/de/produkte/1815303>

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PCB headers, nominal cross section: 0.5 mm², color: signal white, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Male connector, number of potentials: 6, number of rows: 1, number of positions: 6, number of connections: 6, product range: PTSM 0,5/...-HV-THR WH, pitch: 2.5 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2 mm, number of solder pins per potential: 1, plug-in system: COMBICON PTSM, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: 32 mm wide tape

Your advantages

- White design: Stable color when welding and during use
- Designed for integration into the SMT soldering process
- Supplied in tape-on-reel packing according to IEC 60286-3 for automated mounting
- Vertical connection enables multi-row arrangement on the PCB

Commercial Data

Item number	1815303
Packing unit	330 pc
Minimum order quantity	330 pc
Note	Made to Order (non-returnable)
Sales Key	E1 - Leiterplattenanschl.
Product Key	AAATPC
Catalog Page	Page 397 (C-1-2013)
GTIN	4046356761512
Weight per Piece (including packing)	2,5 g
Weight per Piece (excluding packing)	0,759 g
Customs tariff number	85366930
Country of origin	CN

Technical Data

Product properties

Type	Component suitable for through hole reflow
Product line	COMBICON Connectors XS
Product type	PCB headers
Product family	PTSM 0,5/..-HV-THR WH
Number of positions	6
Pitch	2.5 mm
Number of connections	6
Number of rows	1
Mounting flange	without
Number of potentials	6
Pin layout	Linear pinning
Solder pins per potential	1

Electrical properties

Nominal current I_N	6 A
Nominal voltage U_N	160 V
Degree of pollution	3
Contact resistance	3 mΩ
Rated voltage (III/3)	125 V
Rated surge voltage (III/3)	2.5 kV
Rated voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
	320 V
Rated surge voltage (II/2)	2.5 kV

Mounting

Mounting type	THR soldering
Pin layout	Linear pinning

Processing notes

Process	Reflow/wave soldering
Moisture Sensitive Level	MSL 1
Classification temperature T_c	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	Tin-plated

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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)

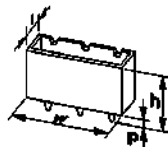
Material data - housing

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

Material data – actuating element

Color ()	()
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Dimensions

Dimensional drawing	
Pitch	2.5 mm
Width [w]	16.7 mm
Height [h]	9.5 mm
Length [l]	5 mm
Installed height	7.5 mm
Solder pin length [P]	2 mm

PCB design

Pin spacing	2.50 mm
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Mechanical tests

Test for conductor damage and slackening

Specification	IEC 60999-1:1999-11
Result	Test passed

Repeated connection and disconnection

Specification	IEC 60999-1:1999-11
Result	Test passed

Pull-out test

Specification	IEC 60999-1:1999-11
Conductor cross section/conductor type/tractive force setpoint/actual value	0.14 mm ² / solid / > 10 N
	0.2 mm ² / flexible / > 10 N
	0.5 mm ² / solid / > 20 N

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	0.75 mm ² / flexible / > 30 N
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Insertion and withdrawal forces

Result	Test passed
No. of cycles	10
Insertion strength per pos. approx.	5 N
Withdraw strength per pos. approx.	4 N

Contact holder in insert

Specification	IEC 60512-15-1:2008-05
Contact holder in insert Requirements >20 N	Test passed

Resistance of inscriptions

Specification	IEC 60068-2-70:1995-12
Result	Test passed

Polarization and coding

Specification	IEC 60512-13-5:2006-02
Result	Test passed

Visual inspection

Specification	IEC 60512-1-1:2002-02
Result	Test passed

Dimension check

Specification	IEC 60512-1-2:2002-02
Result	Test passed

Electrical tests

Thermal test | Test group C

Specification	IEC 60512-5-1:2002-02
Tested number of positions	8

Insulation resistance

Specification	IEC 60512-3-1:2002-02
Insulation resistance, neighboring positions	> 5 MΩ

Temperature cycles

Specification	IEC 60999-1:1999-11
Result	Test passed

Air clearances and creepage distances |

Specification	IEC 60664-1:2007-04
Insulating material group	I
Comparative tracking index (IEC 60112)	CTI 600
Rated insulation voltage (III/3)	125 V
Rated surge voltage (III/3)	2.5 kV

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minimum clearance value - non-homogenous field (III/3)	1.5 mm
minimum creepage distance (III/3)	1.9 mm
Rated insulation voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
minimum clearance value - non-homogenous field (III/2)	1.5 mm
minimum creepage distance (III/2)	1.5 mm
Rated insulation voltage (II/2)	320 V
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)
Sweep speed	5g (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h

Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	2.95 kV
Contact resistance R ₁	3 mΩ
Contact resistance R ₂	4 mΩ
Insertion/withdrawal cycles	10

Climatic test

Specification	ISO 6988:1985-02
Corrosive stress	0.2 dm ³ SO ₂ on 300 dm ³ /40 °C/1 cycle
Thermal stress	100 °C/168 h
Power-frequency withstand voltage	1.39 kV

Ambient conditions

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

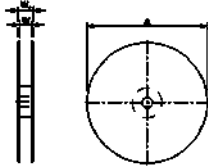
Packaging specifications

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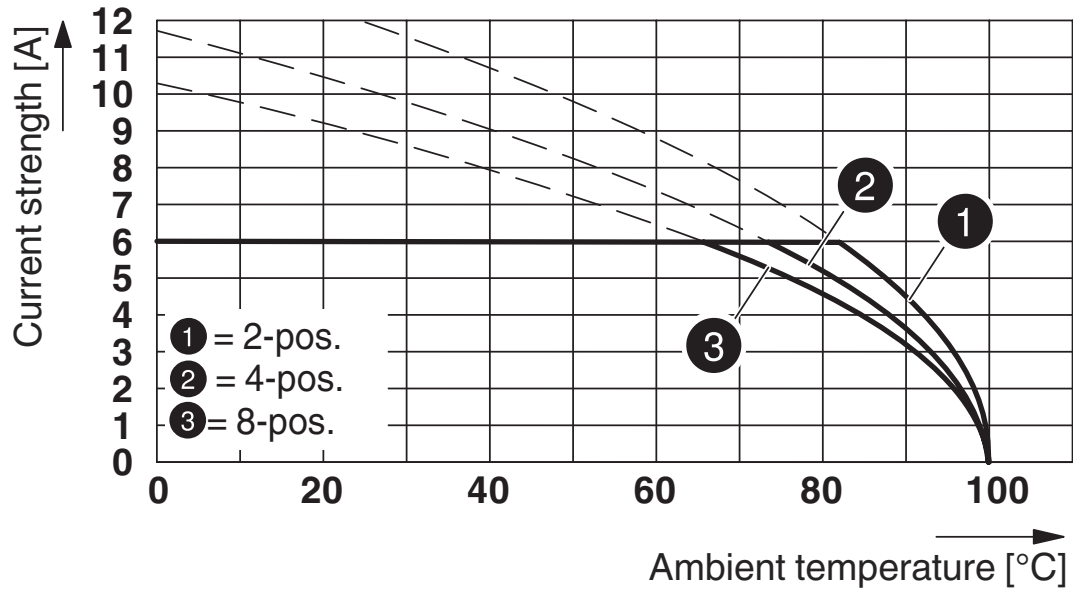
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Dimensional drawing	
Type of packaging	32 mm wide tape
[W] tape width	32 mm
[W2] coil overall dimension	38.4 mm
[A] coil diameter	330 mm
Outer packaging type	Transparent-Bag
ESD level	(D) electrostatically conductive
Specification	DIN EN 61340-5-1 (VDE 0300-5-1): 2008-07

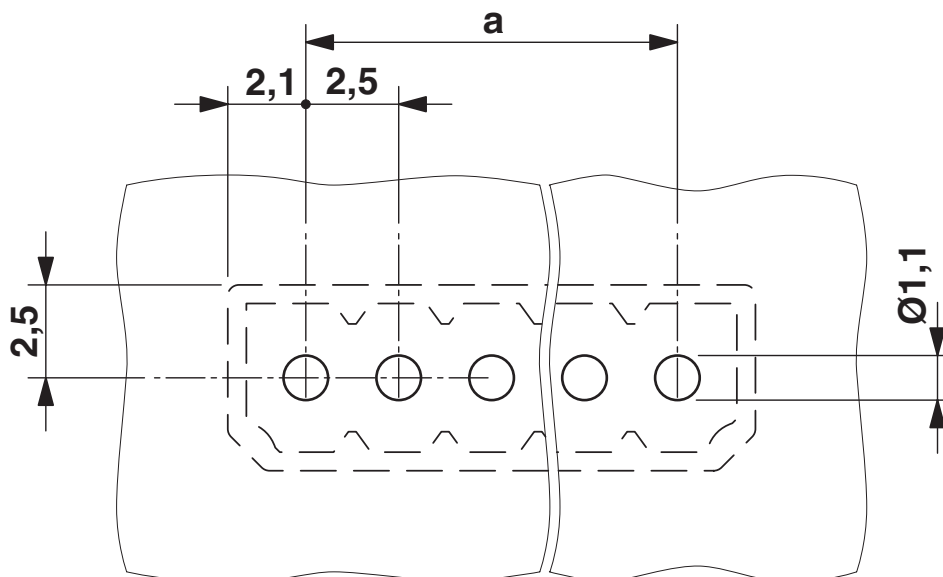
Drawings

Diagram



Type: PTSM 0,5/...-P-2,5 WH... with PTSM 0,5/...-HV-2,5-THR WH R...

Drilling plan/solder pad geometry

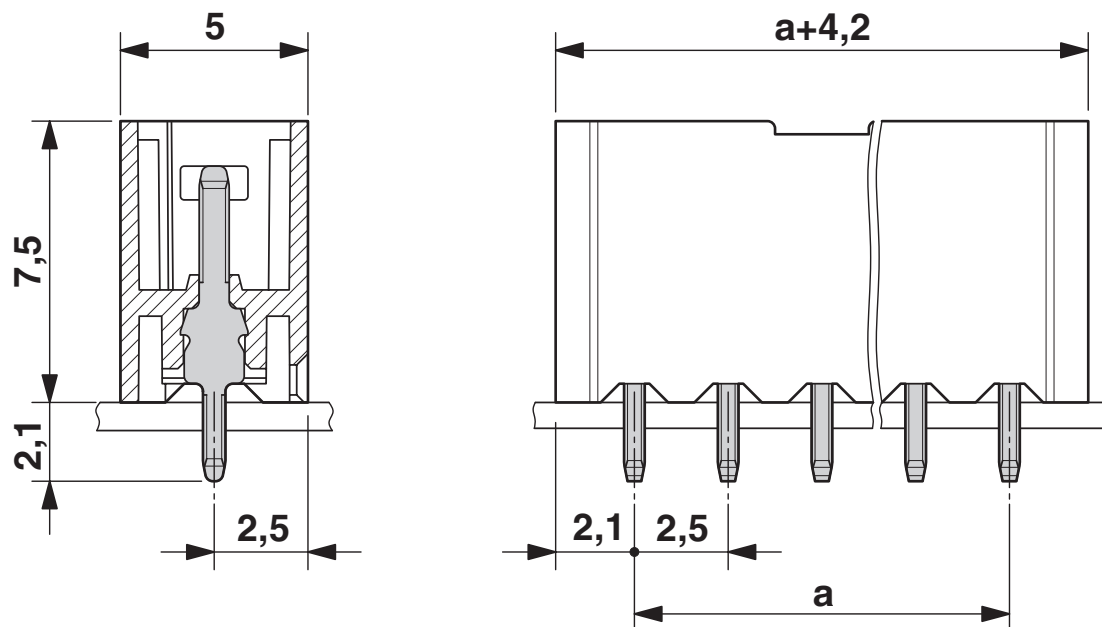


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Dimensional drawing




PTSM 0,5/ 6-HV-2,5-THR WH R32 - PCB header




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Approvals

 UL Recognized Approval ID: E118976-20130619				
	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
Use group B				
	150 V	5 A	-	-

 EAC Approval ID: B.01687				
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 cULus Recognized Approval ID: E60425-20110108				
	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
Use group B				
	150 V	6 A	-	-

 VDE Zeichengenehmigung Approval ID: 40048497				
	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	160 V	6 A	-	0.14 - 0.5

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Classifications

ECLASS

ECLASS-9.0	27440402
ECLASS-10.0.1	27440402
ECLASS-11.0	27460201

ETIM

ETIM 8.0	EC002637
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UNSPSC

UNSPSC 21.0	39121400
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Environmental Product Compliance

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

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Accessories

SAMPLE PTSM 0,5/ 6-HV-2,5-THR - PCB header

1785948

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PCB headers, nominal cross section: 0.5 mm^2 , color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Male connector, number of potentials: 6, number of rows: 1, number of positions: 6, number of connections: 6, product range: PTSM 0,5/..-HV-THR, pitch: 2.5 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2.1 mm, number of solder pins per potential: 1, plug-in system: COMBICON PTSM, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard

PTSM 0,5/ 6-P-2,5 WH - PCB connector

1704859

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PCB connector, nominal cross section: 0.5 mm^2 , color: white, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Female connector, number of potentials: 6, number of rows: 1, number of positions: 6, number of connections: 6, product range: PTSM 0,5/..-P WH, pitch: 2.5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0° , plug-in system: COMBICON PTSM, locking: without, mounting: without, type of packaging: packed in cardboard

PTSM 0,5/ 6-HV-2,5-THR WH R32 - PCB header



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PTSM 0,5/ 6-HHI-2,5-SMD WHR44 - PCB header

1707998

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PCB headers, nominal cross section: 0.5 mm², color: signal white, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Female connector, number of potentials: 6, number of rows: 1, number of positions: 6, number of connections: 6, product range: PTSM 0,5/...-HHI-SMD WH, pitch: 2.5 mm, mounting: SMD soldering, pin layout: Linear pad geometry, solder pin [P]: 2 mm, number of solder pins per potential: 1, plug-in system: COMBICON PTSM, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: 44 mm wide tape, Article with anti-rotation pin

PTSM 0,5/ 6-HHI0-2,5-SMD WHR44 - PCB header

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PCB headers, nominal cross section: 0.5 mm², color: signal white, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Female connector, number of potentials: 6, number of rows: 1, number of positions: 6, number of connections: 6, product range: PTSM 0,5/...-HHI-SMD WH, pitch: 2.5 mm, mounting: SMD soldering, pin layout: Linear pinning, number of solder pins per potential: 1, plug-in system: COMBICON PTSM, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: 44 mm wide tape

PTSM 0,5/ 6-HV-2,5-THR WH R32 - PCB header



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PTSM 0,5/ 6-HHI-2,5-THR WH R32 - PCB header

1815028

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PCB headers, nominal cross section: 0.5 mm², color: signal white, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Female connector, number of potentials: 6, number of rows: 1, number of positions: 6, number of connections: 6, product range: PTSM 0,5/...-HHI-THR WH, pitch: 2.5 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2.1 mm, number of solder pins per potential: 1, plug-in system: COMBICON PTSM, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: 32 mm wide tape

PTSM 0,5/ 6-PL-2,5 WH - Printed-circuit board connector

1709463

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PCB connector, nominal cross section: 0.5 mm², color: white, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Female connector, number of potentials: 6, number of rows: 1, number of positions: 6, number of connections: 6, product range: PTSM 0,5/...-PL WH, pitch: 2.5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, plug-in system: COMBICON PTSM, locking: Snap-in locking, mounting: Self-locking flange, type of packaging: packed in cardboard

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