

PTSM 0,5/ 2-HHI1-2,5-THR R24 - PCB header



1810780

<https://www.phoenixcontact.com/us/products/1810780>

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PCB headers, nominal cross section: 0.5 mm², color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Sn, contact connection type: Socket, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: PTSM 0,5/..-HHI-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 method: without, type of packaging: 24 mm wide tape, Article with anti-rotation pin

Your advantages

- Designed for integration into the SMT soldering process
- Supplied in tape-on-reel packing according to IEC 60286-3 for automated mounting
- Inverted header with socket contacts for touch-proof device outputs or PCB/PCB connections

Commercial data

Item number	1810780
Packing unit	500 pc
Minimum order quantity	500 pc
Note	Made to order (non-returnable)
Sales key	AA01
Product key	AAATSB
GTIN	4046356707312
Weight per piece (including packing)	1.379 g
Weight per piece (excluding packing)	0.853 g
Customs tariff number	85366930
Country of origin	IN

Technical data

Product properties

Product type	PCB headers
Product family	PTSM 0,5/...-HHI-THR
Product line	COMBICON Connectors XS
Type	Component suitable for through hole reflow
Number of positions	2
Pitch	2.5 mm
Number of connections	2
Number of rows	1
Number of potentials	2
Mounting type	without
Pin layout	Linear pinning
Solder pins per potential	1

Electrical properties

Properties

Nominal current I_N	6 A
Nominal voltage U_N	160 V
Contact resistance	3.3 mΩ
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)	200 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

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Surface characteristics	Selective coating
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)	black (9005)
Insulating material	LCP
Insulating material group	IIIa
CTI according to IEC 60112	175
Flammability rating according to UL 94	V0

Dimensions

Dimensional drawing	
Pitch	2.5 mm
Width [w]	5.5 mm
Height [h]	7.1 mm
Length [l]	12 mm
Installed height	5 mm
Solder pin length [P]	2.1 mm

PCB design

Hole diameter	1 mm
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Mechanical tests

Visual inspection

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

Dimension check

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

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Contact holder in insert

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

Insertion and withdrawal forces

Result	Test passed
No. of cycles	10
Insertion strength per pos. approx.	4 N
Withdraw strength per pos. approx.	3 N

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

Air clearances and creepage distances |

Specification	IEC 60664-1:2007-04
Insulating material group	IIIa
Comparative tracking index (IEC 60112)	CTI 175
Rated insulation voltage (III/3)	63 V
Rated surge voltage (III/3)	2.5 kV
minimum clearance value - non-homogenous field (III/3)	1.5 mm
minimum creepage distance (III/3)	2 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)	1.6 mm
Rated insulation voltage (II/2)	200 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)	2 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)

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Test duration per axis	2.5 h
Test directions	X-, Y- and Z-axis

Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	2.95 kV
Contact resistance R_1	3.3 m Ω
Contact resistance R_2	3.5 m Ω
Insertion/withdrawal cycles	25
Insulation resistance, neighboring positions	> 5 M Ω

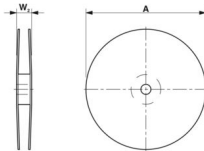
Climatic test

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

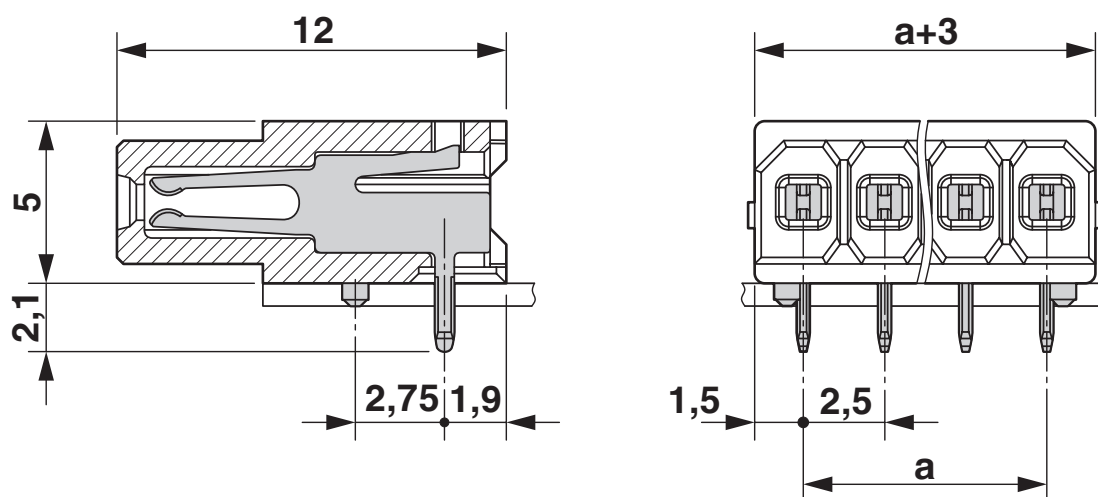
Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

Packaging specifications

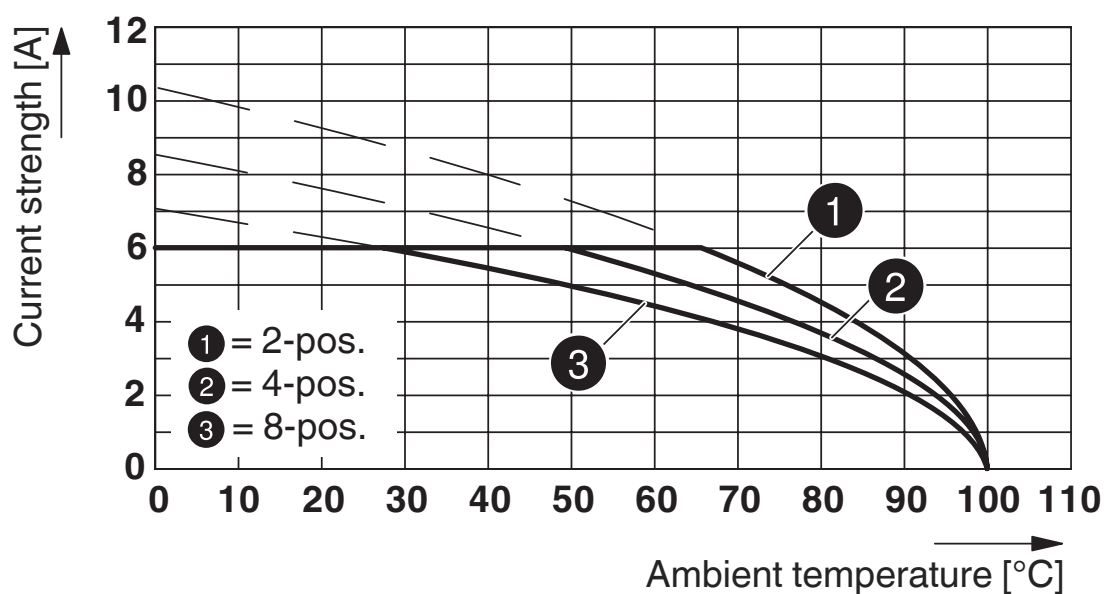
Dimensional drawing	
Type of packaging	24 mm wide tape
[W] tape width	24 mm
[W2] coil overall dimension	≤ 30.4 mm
[A] coil diameter	≤ 330 mm
Outer packaging type	Transparent-Bag

Drawings

Dimensional drawing



Diagram

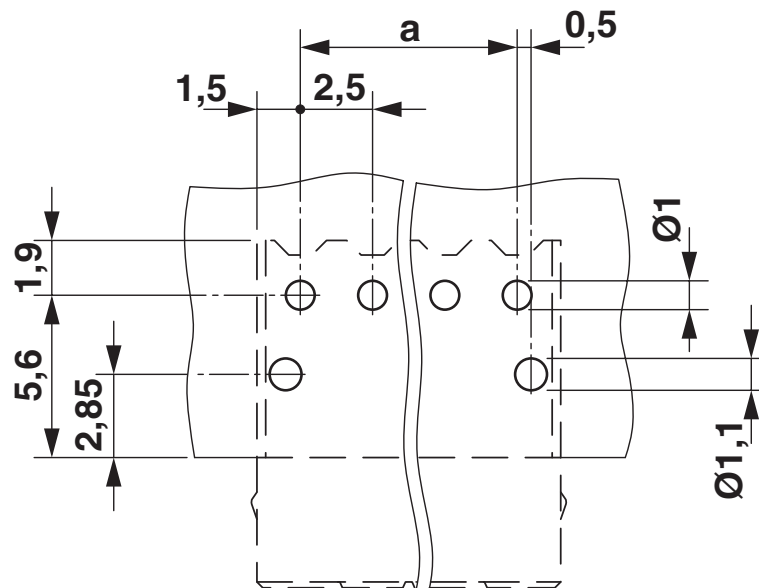


Type: PTSM 0,5/...-HHI1-2,5-THR R... with PTSM 0,5/...-HH-2,5-THR R...

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Drilling plan/solder pad geometry



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Approvals

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 UL Recognized Approval ID: E118976-20130619				
	Nominal voltage U _N	Nominal current I _N	Cross section AWG	Cross section mm ²
B				
	150 V	5 A	-	-

 VDE Zeichengenehmigung Approval ID: 40048497				
	Nominal voltage U _N	Nominal current I _N	Cross section AWG	Cross section mm ²
keine				
	160 V	6 A	-	-

 cULus Recognized Approval ID: E60425-20110108				
	Nominal voltage U _N	Nominal current I _N	Cross section AWG	Cross section mm ²
B				
	150 V	6 A	-	-

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Classifications

ECLASS

ECLASS-13.0	27460201
ECLASS-15.0	27460201

ETIM

ETIM 9.0	EC002637
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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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