

# PTSM 0,5/ 3-HH-2,5-THR R32 - PCB header



1778638

<https://www.phoenixcontact.com/us/products/1778638>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



PCB headers, nominal cross section: 0.5 mm<sup>2</sup>, color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Sn, contact connection type: Pin, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: PTSM 0,5/..-HH-THR, pitch: 2.5 mm, mounting: THR soldering / wave 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: 32 mm wide tape

## Your advantages

- Designed for integration into the SMT soldering process
- Supplied in tape-on-reel packing according to IEC 60286-3 for automated mounting

## Commercial data

Item number	1778638
Packing unit	500 pc
Minimum order quantity	500 pc
Sales key	AA01
Product key	AAATPB
GTIN	4046356529815
Weight per piece (including packing)	1.415 g
Weight per piece (excluding packing)	1.415 g
Customs tariff number	85366930
Country of origin	CN

1778638

<https://www.phoenixcontact.com/us/products/1778638>

## Technical data

### Product properties

Product type	PCB headers
Product family	PTSM 0,5/..-HH-THR
Product line	COMBICON Connectors XS
Type	Component suitable for through hole reflow
Number of positions	3
Pitch	2.5 mm
Number of connections	3
Number of rows	1
Number of potentials	3
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 mΩ
Rated voltage (III/3)	50 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)	160 V
Rated surge voltage (II/2)	2.5 kV

### Mounting

Mounting type	THR soldering / wave 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

# PTSM 0,5/ 3-HH-2,5-THR R32 - PCB header

1778638

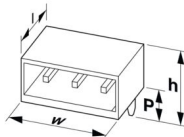
<https://www.phoenixcontact.com/us/products/1778638>

Surface characteristics	Tin-plated
Metal surface contact area (top layer)	Tin (3 µm - 5 µm Sn)
Metal surface contact area (middle layer)	Nickel (1.3 µm - 3 µm Ni)
Metal surface soldering area (top layer)	Tin (3 µm - 5 µm Sn)
Metal surface soldering area (middle layer)	Nickel (1.3 µm - 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]	9.2 mm
Height [h]	7 mm
Length [l]	7.5 mm
Installed height	5 mm
Solder pin length [P]	2.1 mm
Pin dimensions	0.6 x 0.6 mm

## PCB design

Pin spacing	2.50 mm
Hole diameter	1.1 mm

## 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

# PTSM 0,5/ 3-HH-2,5-THR R32 - PCB header



1778638

<https://www.phoenixcontact.com/us/products/1778638>

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

## Contact holder in insert

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

## Insertion and withdrawal forces

Specification	IEC 60512-13-2:2006-02
Result	Test passed
No. of cycles	10
Insertion strength per pos. approx.	5 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)	50 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)	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)	1.6 mm
Rated insulation voltage (II/2)	160 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

### Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	2.95 kV

# PTSM 0,5/ 3-HH-2,5-THR R32 - PCB header



1778638

<https://www.phoenixcontact.com/us/products/1778638>

Contact resistance $R_1$	3 m $\Omega$
Contact resistance $R_2$	4 m $\Omega$
Insertion/withdrawal cycles	10

## Climatic test

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

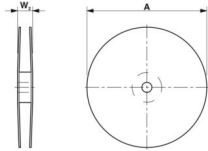
## Vibration test

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

## Ambient conditions

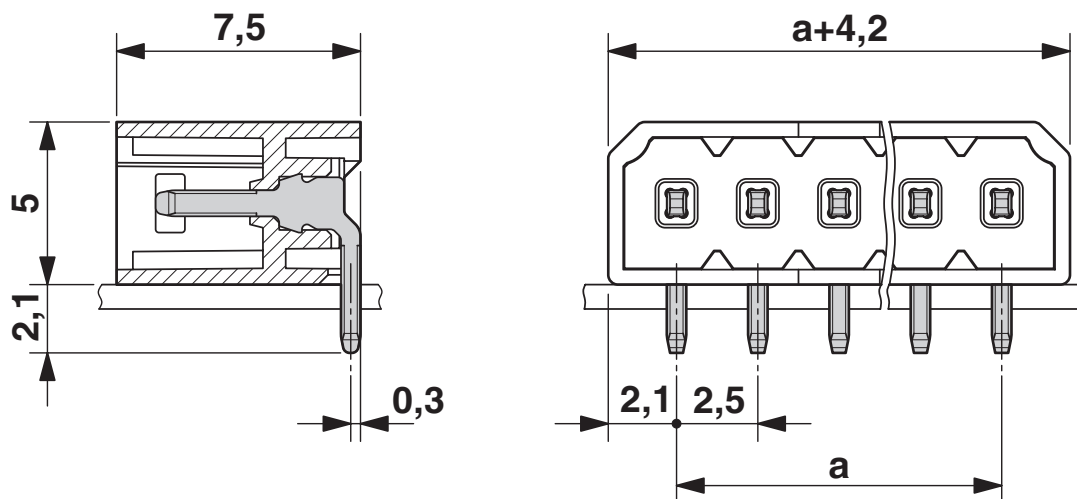
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C
Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the derating curve)

## Packaging specifications

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

Drawings

Dimensional drawing



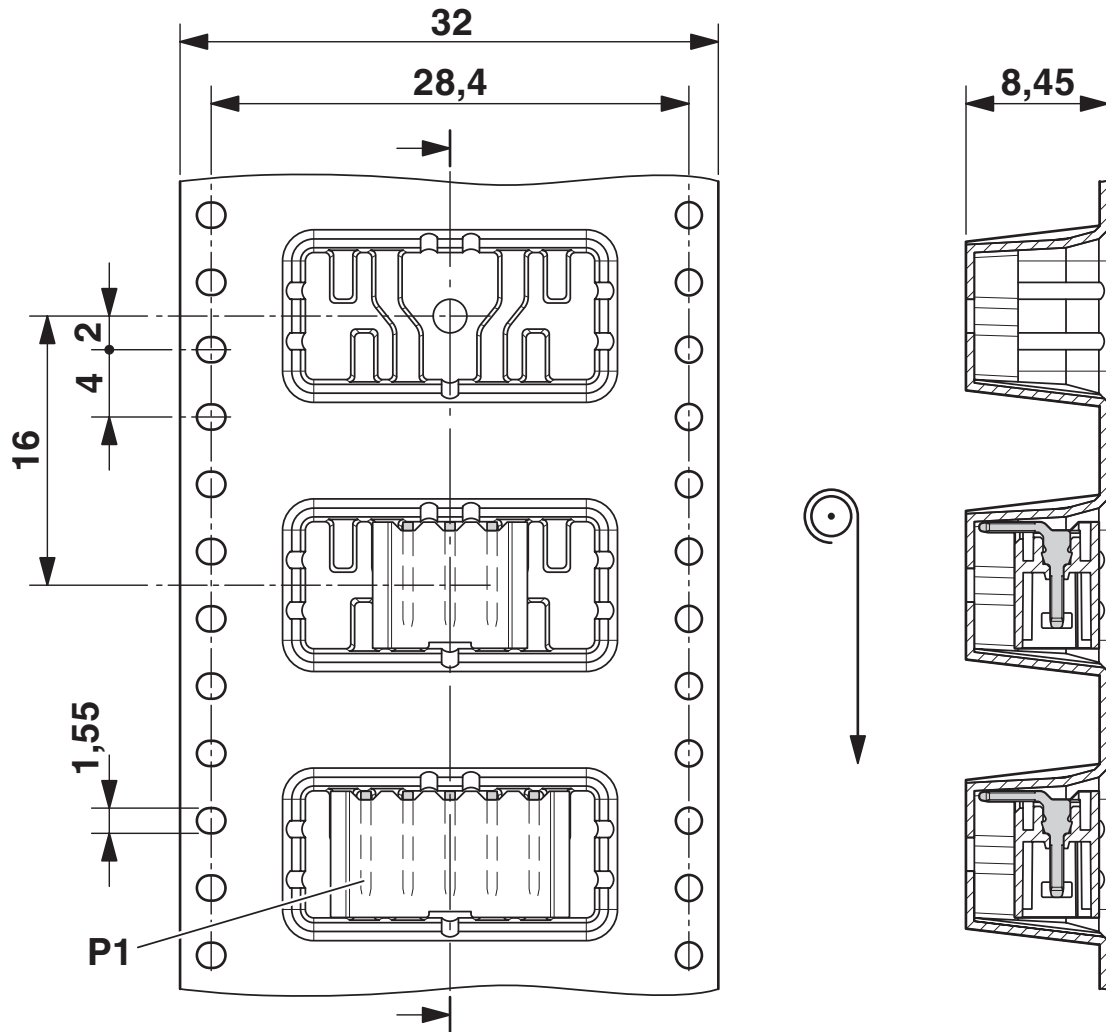
# PTSM 0,5/ 3-HH-2,5-THR R32 - PCB header

1778638

<https://www.phoenixcontact.com/us/products/1778638>

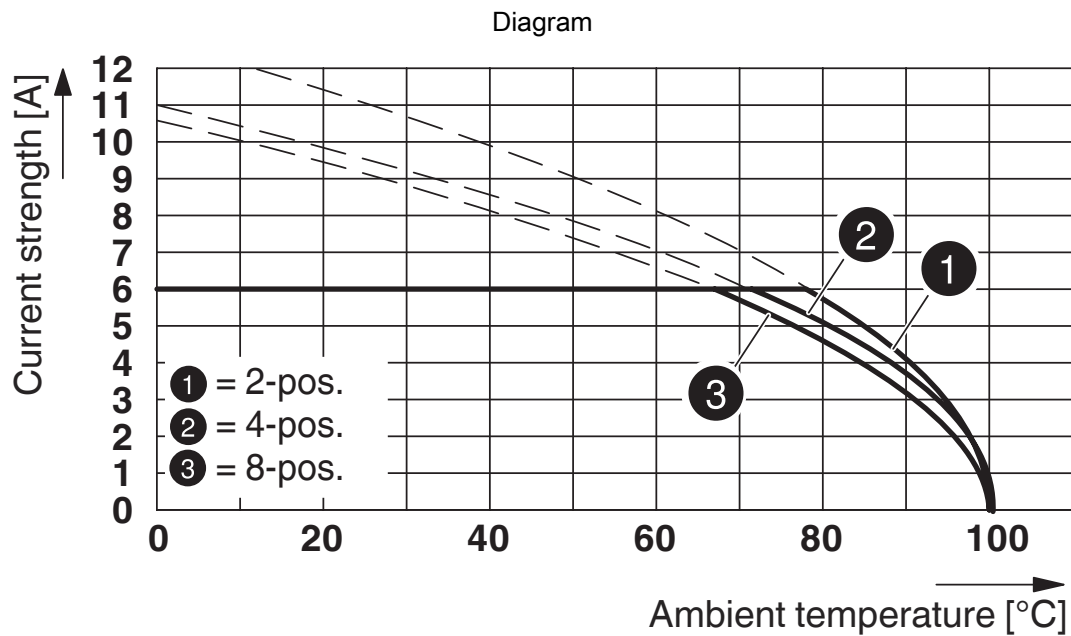


Dimensional drawing

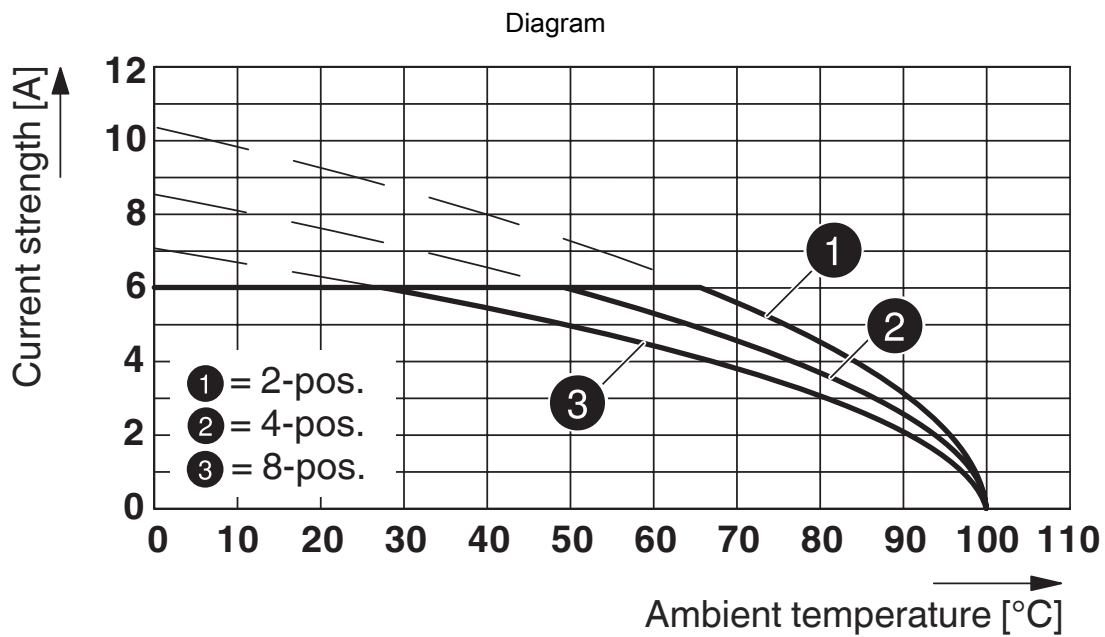


1778638

<https://www.phoenixcontact.com/us/products/1778638>



Derating curve for: PTSM 0,5/...-P-2,5 with PTSM 0,5/...-HH-2,5-THR R..



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

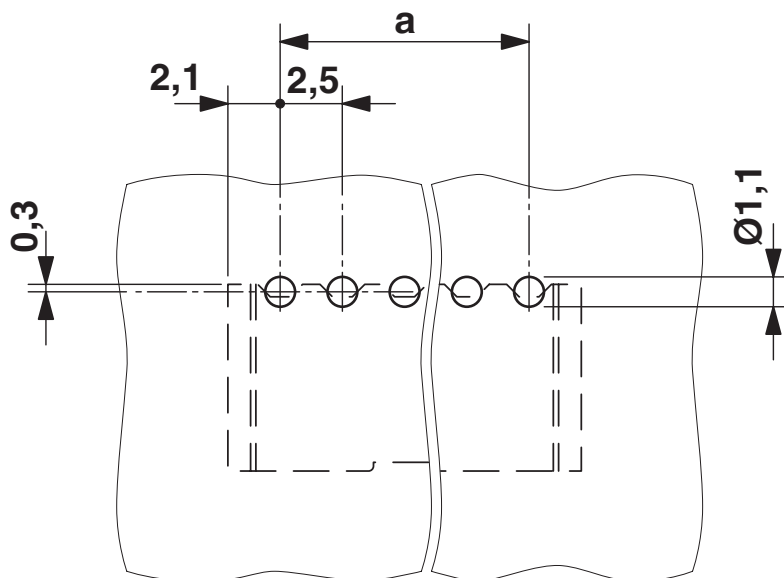
# PTSM 0,5/ 3-HH-2,5-THR R32 - PCB header

1778638

<https://www.phoenixcontact.com/us/products/1778638>



Drilling plan/solder pad geometry



# PTSM 0,5/ 3-HH-2,5-THR R32 - PCB header



1778638

<https://www.phoenixcontact.com/us/products/1778638>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1778638>

 <b>UL Recognized</b> Approval ID: E118976-20130619				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
B				
	150 V	5 A	-	-

 <b>cULus Recognized</b> Approval ID: E60425-20110108				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
B				
	150 V	6 A	-	-

 <b>VDE Zeichengenehmigung</b> Approval ID: 40048497				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
keine				
	160 V	6 A	-	-

# PTSM 0,5/ 3-HH-2,5-THR R32 - PCB header



1778638

<https://www.phoenixcontact.com/us/products/1778638>

## Classifications

### ECLASS

ECLASS-13.0	27460201
ECLASS-15.0	27460201

### ETIM

ETIM 10.0	EC002637
-----------	----------

### UNSPSC

UNSPSC 21.0	39121400
-------------	----------

# PTSM 0,5/ 3-HH-2,5-THR R32 - PCB header



1778638

<https://www.phoenixcontact.com/us/products/1778638>

## 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%
-------------------------------------	----------------------------

Phoenix Contact 2026 © - all rights reserved  
<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)