

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



1778599

<https://www.phoenixcontact.com/us/products/1778599>

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 mm², 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 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

- 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	1778599
Packing unit	1 pc
Minimum order quantity	330 pc
Sales Key	A03
Product Key	AAATPD
Catalog Page	Page 59 (C-1-2013)
GTIN	4046356529761
Weight per Piece (including packing)	2.259 g
Weight per Piece (excluding packing)	2.12 g
Customs tariff number	85366930
Country of origin	CN

1778599

<https://www.phoenixcontact.com/us/products/1778599>

Technical Data

Product properties

Type	Component suitable for through hole reflow
Product line	COMBICON Connectors XS
Product type	PCB headers
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)	50 V
Rated surge voltage (III/3)	2.5 kV
Rated voltage (III/2)	160 V
Rated surge voltage (III/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
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)

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



1778599

<https://www.phoenixcontact.com/us/products/1778599>

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

Material data – actuating element

Color ()	()
----------	----

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
-------------	---------

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
	0.75 mm ² / flexible / > 30 N

Insertion and withdrawal forces

Result	Test passed
--------	-------------

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



1778599

<https://www.phoenixcontact.com/us/products/1778599>

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	IIIa
Comparative tracking index (IEC 60112)	CTI ≥175 to <400
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

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



1778599

<https://www.phoenixcontact.com/us/products/1778599>

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

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 m Ω
Contact resistance R_2	4 m Ω
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

Dimensional drawing	
Type of packaging	32 mm wide tape
[W] tape width	32 mm

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



1778599

<https://www.phoenixcontact.com/us/products/1778599>

[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

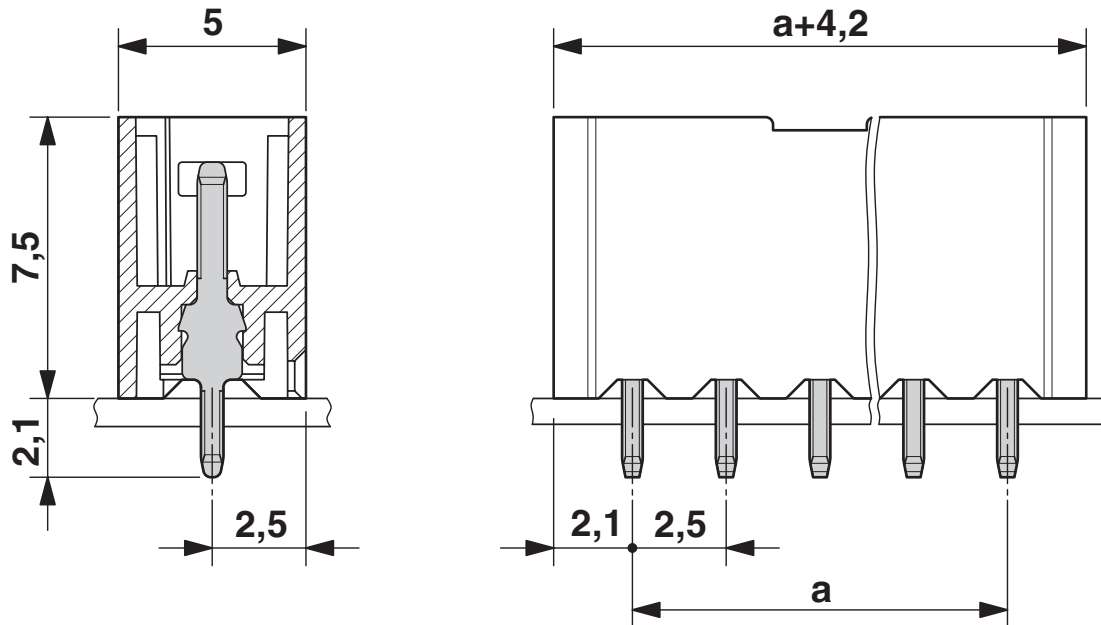
PCB header - PTSM 0,5/ 6-HV-2,5-THR R32



1778599

<https://www.phoenixcontact.com/us/products/1778599>

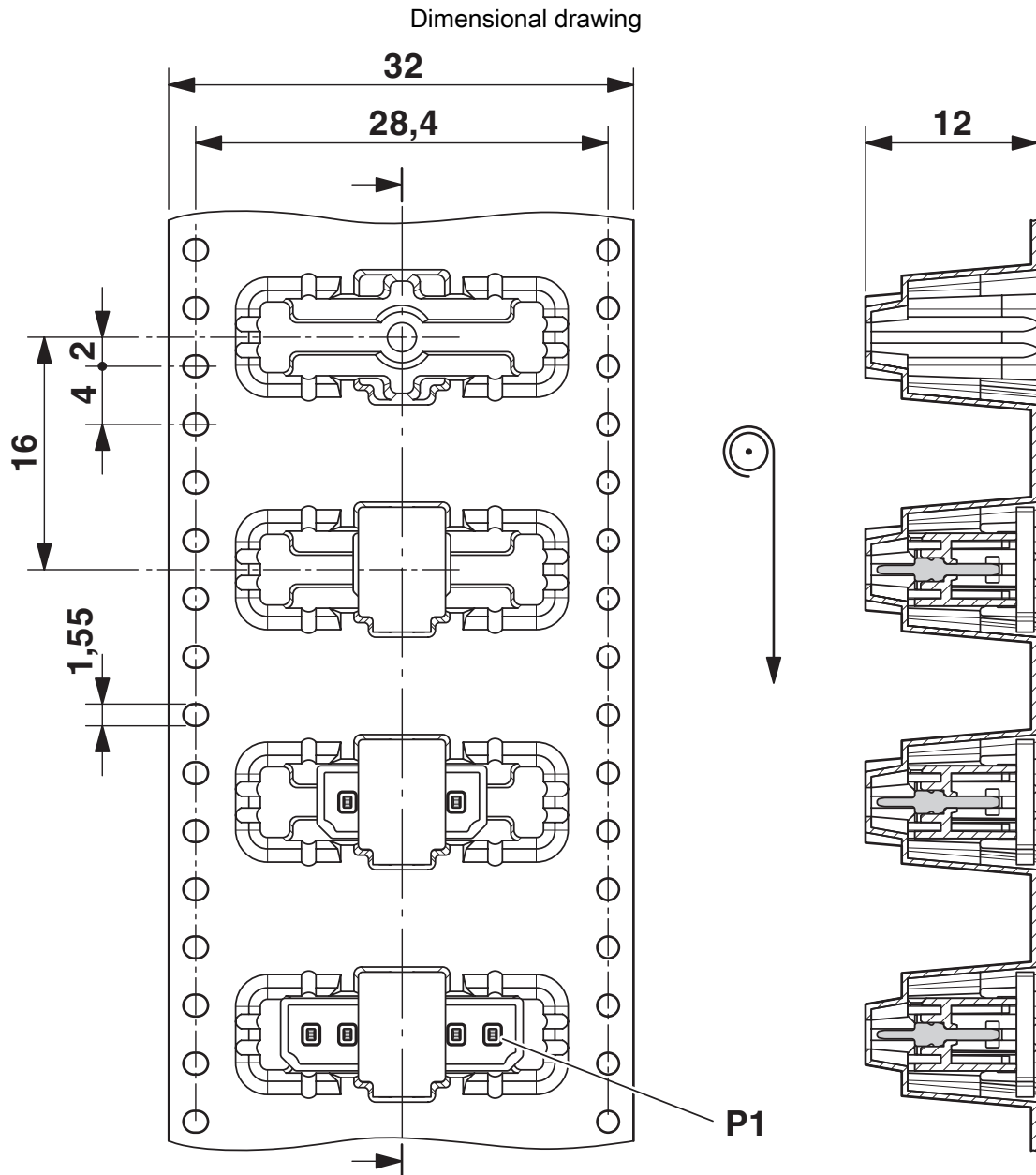
Dimensional drawing



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

1778599

<https://www.phoenixcontact.com/us/products/1778599>




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





1778599

<https://www.phoenixcontact.com/us/products/1778599>

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				
--	--	--	--	--

 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

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



1778599

<https://www.phoenixcontact.com/us/products/1778599>

Classifications

ECLASS

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

ETIM

ETIM 8.0	EC002637
----------	----------

UNSPSC

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

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



1778599

<https://www.phoenixcontact.com/us/products/1778599>

Environmental Product Compliance

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

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



1778599

<https://www.phoenixcontact.com/us/products/1778599>

Accessories

Printed-circuit board connector

Printed-circuit board connector - PTSM 0,5/ 6-P-2,5 - 1778874

<https://www.phoenixcontact.com/us/products/1778874>



PCB connector, nominal cross section: 0.5 mm², color: black, 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, 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

Phoenix Contact 2022 © - 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