

## Feed-through header - PTSM 0,5/ 4-HH-2,5-THR R32 - 1778641

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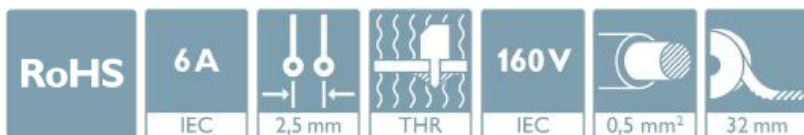


PCB headers, nominal cross section: 0.5 mm<sup>2</sup>, color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Male connector, Number of potentials: 4, Number of rows: 1, Number of positions per row: 4, number of connections: 4, product range: PTSM 0,5/...-HH-THR, pitch: 2.5 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2.1 mm, Stecksyst.: COMBICON COMPACT PTSM, Locking: without, type of packaging: 32 mm wide tape


The figure shows the 3-pos. version

### Your advantages

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



### Key Commercial Data

Packing unit	1 pc
Minimum order quantity	500 pc
GTIN	 4 046356 529822
GTIN	4046356529822
Weight per Piece (excluding packing)	1.440 g
Custom tariff number	85366930
Country of origin	China

### Technical data

#### Item properties

Brief article description	Feed-through header
Plug-in system	COMBICON COMPACT PTSM
Type of contact	Male connector
Range of articles	PTSM 0,5/...-HH-THR
Pitch	2.5 mm
Number of positions	4

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### Technical data

#### Item properties

Mounting type	THR soldering
Pin layout	Linear pinning
Locking	without
Number of levels	1
Number of connections	4
Number of potentials	4
Pin connector pattern alignment	Standard

#### Electrical parameters

Nominal current	6 A
Nom. voltage	160 V
Rated voltage (III/3)	50 V
Rated voltage (III/2)	160 V
Rated voltage (II/2)	160 V
Rated surge voltage (III/3)	2.5 kV
Rated surge voltage (III/2)	2.5 kV
Rated surge voltage (II/2)	2.5 kV

#### 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)
Metal surface soldering area (middle layer)	Nickel (1.3 - 3 µm Ni)

#### Material data - housing

Housing color	black (9005)
Insulating material	LCP
Insulating material group	IIIa
CTI according to IEC 60112	175
Flammability rating according to UL 94	V0

#### Flange specifications

Type of locking	without
Mounting flange	without

#### Dimensions for the product

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## Technical data

### Dimensions for the product

Caption	Schematische Abbildung - weitere Details siehe Produktfamilienzeichnung im Download Center
Length [ l ]	7.5 mm
Width [ w ]	11.7 mm
Height [ h ]	7 mm
Pitch	2.5 mm
Height (without solder pin)	5 mm
Solder pin [P]	2.1 mm
Pin spacing	2.50 mm
Pin dimensions	0.6 x 0.6 mm

### Dimensions for PCB design

Hole diameter	1.1 mm
Pin spacing	2.50 mm

### Packaging information

Type of packaging	32 mm wide tape
Pieces per package	500
Denomination packing units	Pcs.
[W] tape width	32 mm
[A] coil diameter	330 mm
[W2] coil overall dimension	38.4 mm
Outer packaging type	Transparent-Bag

### Processing notes

Process	Reflow/wave soldering
Specification	Following IPC/JEDEC J-STD-020D.1:2008-03
	Following IEC 61760-1:2006-04
	Following IEC 60068-2-58:2005-02
Moisture Sensitive Level	MSL 1
Classification temperature T <sub>c</sub>	260 °C
Solder cycles in the reflow	3

### Ambient conditions

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

### Air clearances and creepage distances

Clearances and creepage distances	IEC 60664-1:2007-04
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### Technical data

#### Air clearances and creepage distances

Specification	IEC 60664-1:2007-04
Minimum clearance - inhomogeneous field (III/3)	1.5 mm
Minimum clearance - inhomogeneous field (III/2)	1.5 mm
Minimum clearance - inhomogeneous field (II/2)	1.5 mm
Minimum creepage distance value (III/3)	1.9 mm
Minimum creepage distance value (III/2)	1.6 mm
Minimum creepage distance value (II/2)	1.6 mm

#### Mechanical tests (A)

Test specification	IEC 61984
Insertion strength per pos. approx.	5 N
Withdraw strength per pos. approx.	4 N
Polarization when inserted requirement >20 N	Test passed
Contact holder in insert requirements >20 N	Test passed

#### Durability tests (B)

Specification	IEC 60512-9-1:2010-03
Contact resistance $R_1$	3 mΩ
Insertion/withdrawal cycles	10
Contact resistance $R_2$	4 mΩ
Impulse withstand voltage at sea level	2.95 kV

#### Thermal tests (C)

Specification	IEC 60512-5-1:2002-02
Number of positions	8
Upper limiting temperature requirements <100 °C	Test passed

#### Climatic tests (D)

Specification	ISO 6988:1985-02
Cold stress	-40 °C/2 h
Thermal stress	100 °C/168 h
Corrosive stress	0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle
Impulse withstand voltage at sea level	2.95 kV
Power-frequency withstand voltage	1.39 kV

#### Environmental and durability tests (E)

Specification	IEC 61984:2008-10
Result, degree of protection, IP code	Back of hand safety with IP10 access probe

#### Vibration test

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## Technical data

### Vibration test

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

### Standards and Regulations

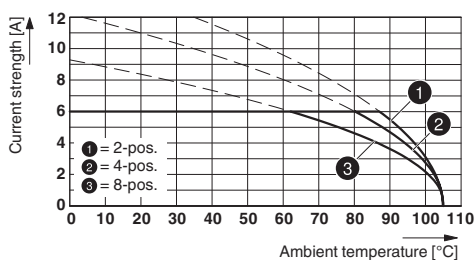
Connection in acc. with standard	EN-VDE
	UL
Flammability rating according to UL 94	V0

### Environmental Product Compliance

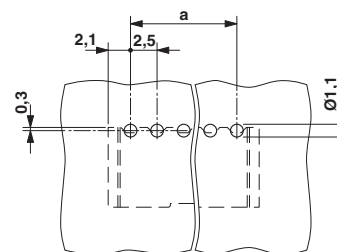
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

## Drawings

Diagram

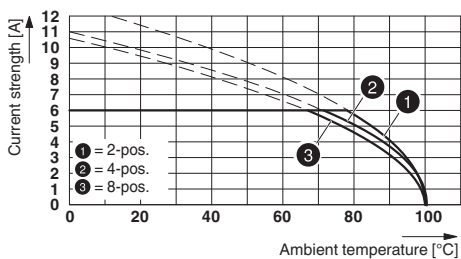


Drilling diagram

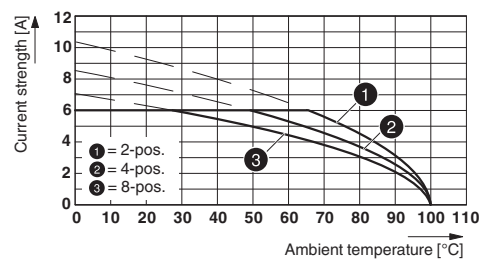


Type: PTCM 0,5/...-PL-2,5 WH with PTSM 0,5/...-HH-2,5-THR WH R...

Diagram



Diagram

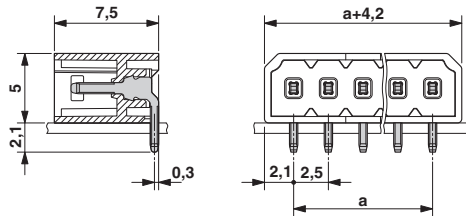


Derating curve for: PTSM 0,5/...-P-2,5 with PTSM 0,5/...-HH-2,5-THR R...

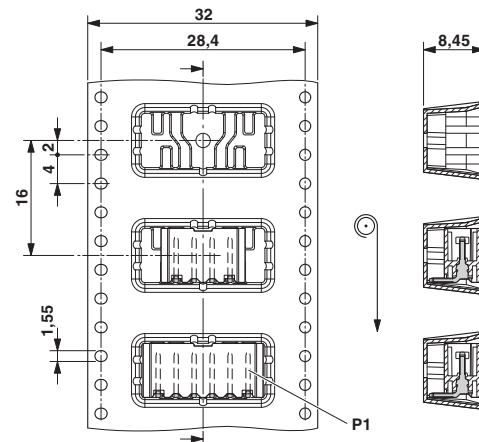
Type: PTSM 0,5/...-HHI1-2,5-THR R... with PTSM 0,5/...-HH-2,5-THR R...

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Dimensional drawing



Dimensional drawing



### Classifications

#### eCl@ss

eCl@ss 10.0.1	27440402
eCl@ss 11.0	27460201
eCl@ss 4.0	27260700
eCl@ss 4.1	27260700
eCl@ss 5.0	27260700
eCl@ss 5.1	27260700
eCl@ss 6.0	27260700
eCl@ss 7.0	27440402
eCl@ss 8.0	27440402
eCl@ss 9.0	27440402

#### ETIM

ETIM 3.0	EC001121
ETIM 4.0	EC002637
ETIM 5.0	EC002637
ETIM 6.0	EC002637
ETIM 7.0	EC002637

#### UNSPSC

UNSPSC 6.01	30211810
UNSPSC 7.0901	39121409
UNSPSC 11	39121409

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### Classifications

#### UNSPSC

UNSPSC 12.01	39121409
UNSPSC 13.2	39121409
UNSPSC 18.0	39121409
UNSPSC 19.0	39121409
UNSPSC 20.0	39121409
UNSPSC 21.0	39121409

### Approvals


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UL Recognized / VDE Zeichengenehmigung / EAC / cULus Recognized

#### Ex Approvals

#### Approval details


UL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	E118976-20130619
		B	
Nominal voltage UN		150 V	
Nominal current IN		5 A	

VDE Zeichengenehmigung		<a href="http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx">http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx</a>	40048497
Nominal voltage UN		160 V	
Nominal current IN		6 A	
mm²/AWG/kcmil		0.14-.5	

EAC		B.01687
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### Approvals

cULus Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	E60425-20110108
		B	
Nominal voltage UN		150 V	
Nominal current IN		6 A	

### Accessories

#### Additional products

##### Printed-circuit board connector - PTSM 0,5/ 4-P-2,5 - 1778858



PCB connector, nominal cross section: 0.5 mm<sup>2</sup>, color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Female connector, Number of potentials: 4, Number of rows: 1, Number of positions per row: 4, number of connections: 4, product range: PTSM 0,5/...-P, pitch: 2.5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, Stecksystem: COMBICON COMPACT PTSM, Locking: without, type of packaging: packed in cardboard

##### Plug - PTPM 0,2/ 4-P-2,5 - 1780480



##### Plug - PTPM 0,4/ 4-P-2,5 - 1780532



PCB connector, color: black, contact surface: Tin, Number of positions per row: 4, product range: PTPM 0,4/...-P, pitch: 2.5 mm