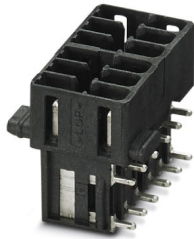


# PCB header - HSCH 1,5-2U/12 THR 9005 - 2203409

<https://www.phoenixcontact.com/in/products/2203409>

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PCB header, nominal cross section: 1.5 mm<sup>2</sup>, color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Male connector, Number of potentials: 12, Number of rows: 2, Number of positions per row: 12, number of connections: 12, product range: HSCH 1,5/...-G-THR, pitch: 3.45 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2.3 mm, Stecksystem: HSC 1,5, Locking: without, type of packaging: 44 mm wide tape

## Your advantages

- For front connection plugs with tool-free, time saving Push-in connection
- Suitable for reflow soldering processes
- All headers support variable coding
- Packaged in carrier tape for automated pick-and-place assembly

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## Commercial Data

Order Key	2203409
Packing unit	150 pc
Minimum order quantity	150 pc
Sales Key	ACH
GTIN	4055626386782
Weight per Piece (including packing)	4.6 GRM
Weight per Piece (excluding packing)	4.6 GRM
Customs tariff number	85366930

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## Technical Data

### Mounting

Mounting type	
Processing notes	
Process	Reflow/wave soldering
Specification	
Specification	
Specification	
Moisture Sensitive Level	MSL 1
Classification temperature T <sub>c</sub>	260 °C
Solder cycles in the reflow	3

### Electrical tests

#### Thermal test | Test group C

Specification	IEC 60512-5-1:2002-02
Tested number of positions	48

#### Electrical properties

Rated voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
Contact resistance	1.8 mΩ
Pollution degree	2

#### Air clearances and creepage distances |

Specification	IEC 60664-1:2007-04
Insulating material group	IIIb
Comparative tracking index (IEC 60112:2003-01)	CTI 150
Rated insulation voltage (III/3)	40 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)	1.8 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

### Electrical properties

Nominal current I <sub>N</sub>	8 A
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## Packaging specifications

Dimensional drawing	
Type of packaging	44 mm wide tape
[W] tape width	44 mm
[W2] coil overall dimension	50.4 mm
[A] coil diameter	330 mm
Outer packaging type	Transparent-Bag

## Environmental and real-life conditions

Ambient temperature (operation)	-40 °C ... 105 °C (dependent on the derating curve)
Ambient temperature (storage/transport)	-40 °C ... 55 °C
Ambient temperature (assembly)	-5 °C ... 100 °C

## Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	2.95 kV
Contact resistance R <sub>1</sub>	1.8 mΩ
Contact resistance R <sub>2</sub>	2 mΩ
Insertion/withdrawal cycles	25
Insulation resistance, neighboring positions	> 1.9 TΩ

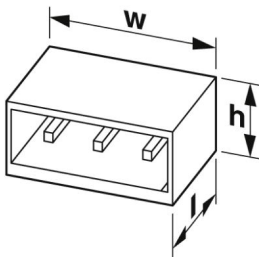
## Climatic test

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 - 60.1 Hz)
Sweep speed	5 g (60.1 - 150 Hz)
Test duration per axis	2.5 h

## Dimensions

Dimensional drawing	
---------------------	--

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Width	17.45 mm
Height	21.8 mm
Length of the solder pin	2.3 mm
Length	16.4 mm
Length of the solder pin	2.3 mm
Pin dimensions	0.8 x 0.8 mm
Hole diameter	1.2 mm
Pitch	3.45 mm

## PCB design

Pin spacing	5.30 mm
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## Ambient conditions

Ambient temperature (operation)	-40 °C ... 105 °C (dependent on the derating curve)
Ambient temperature (storage/transport)	-40 °C ... 55 °C
Ambient temperature (assembly)	-5 °C ... 100 °C

## Mechanical tests

### Contact holder in insert

Specification	IEC 60512-15-1:2008-05
Result	Test passed
Test force per pos.	20 N

### Repeated connection and disconnection

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

### Polarization and coding

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

### Insertion and withdrawal forces

Result	Test passed
No. of cycles	25
Insertion strength per pos. approx.	5 N
Withdraw strength per pos. approx.	3 N

### Test for conductor damage and slackening

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	0.2 mm <sup>2</sup> / solid / > 10 N
Conductor cross section/conductor type/tractive force	0.2 mm <sup>2</sup> / flexible / > 10 N

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setpoint/actual value	
Conductor cross section/conductor type/tractive force setpoint/actual value	1.5 mm <sup>2</sup> / solid / > 40 N
Conductor cross section/conductor type/tractive force setpoint/actual value	1.5 mm <sup>2</sup> / flexible / > 40 N

## Visual inspection

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

## Resistance of inscriptions

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

## Dimension check

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

## Notes

### Environmental Product Compliance

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

### Safety note

Safety note	WARNING: The connectors may not be plugged in or disconnected under load. Ignoring the warning or improper use may damage persons and/or property.
Safety note	• WARNING: Commission properly functioning products only. The products must be regularly inspected for damage. Decommission defective products immediately. Replace damaged products. Repairs are not possible.
Safety note	• WARNING: Only electrically qualified personnel may install and operate the product. They must observe the following safety notes. The qualified personnel must be familiar with the basics of electrical engineering. They must be able to recognize and prevent danger. The relevant symbol on the packaging indicates that only personnel familiar with electrical engineering are allowed to install and operate the product.
Safety note	• The item is intended to be an unencapsulated plug for installation in a housing.
Safety note	• Operate the connector only when it is fully plugged in.

## Material specifications

### Material data – actuating element

Insulating material	PBT
Insulating material group	IIIa
CTI according to IEC 60112	275
Flammability rating according to UL 94	V0

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## Material data - housing

Housing color	black (9005)
Insulating material	LCP
Insulating material group	IIIb
CTI according to IEC 60112	150
Flammability rating according to UL 94	V0
Glow wire flammability index GWFI according to EN 60695-2-12	850
Glow wire ignition temperature GWIT according to EN 60695-2-13	775
Temperature for the ball pressure test according to EN 60695-10-2	125 °C

## 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

## Product properties

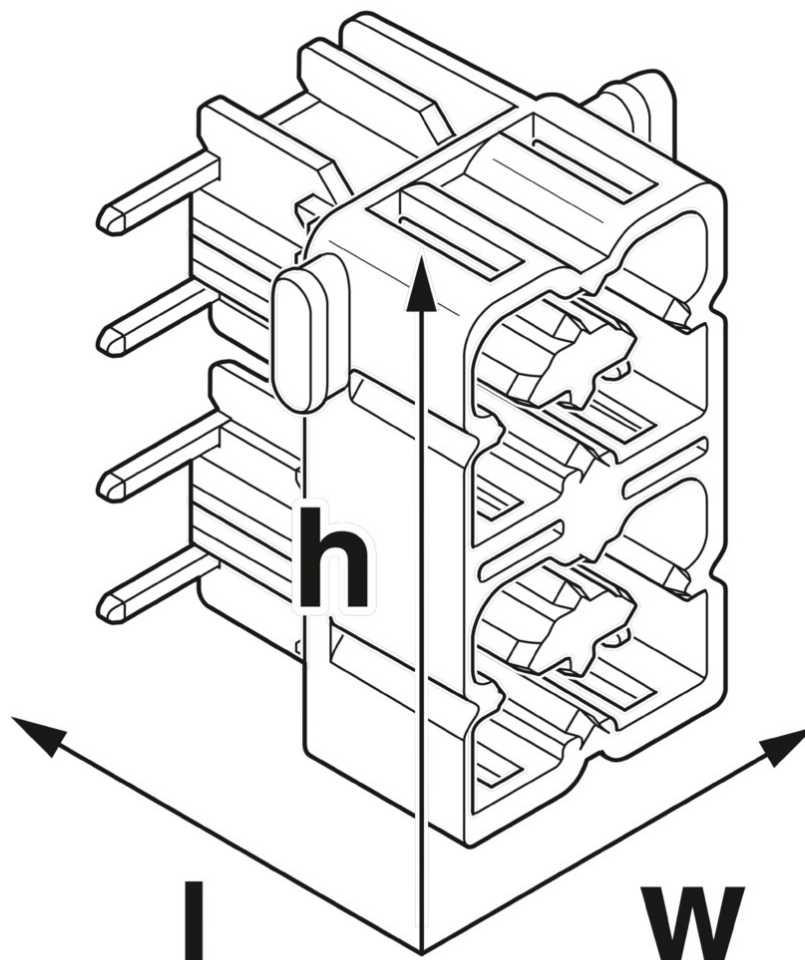
Type	Component suitable for through hole reflow
Number of positions	12
Number of connections	12
Number of levels	2
Plug-in system	HSC 1,5
Number of potentials	12
Pin layout	Linear pinning

# PCB header - HSCH 1,5-2U/12 THR 9005 - 2203409

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## Drawings

Dimensional drawing

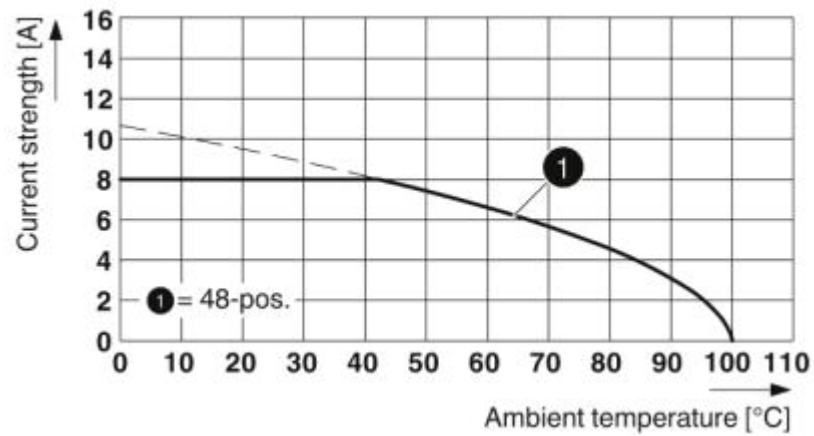




# PCB header - HSCH 1,5-2U/12 THR 9005 - 2203409

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Diagram

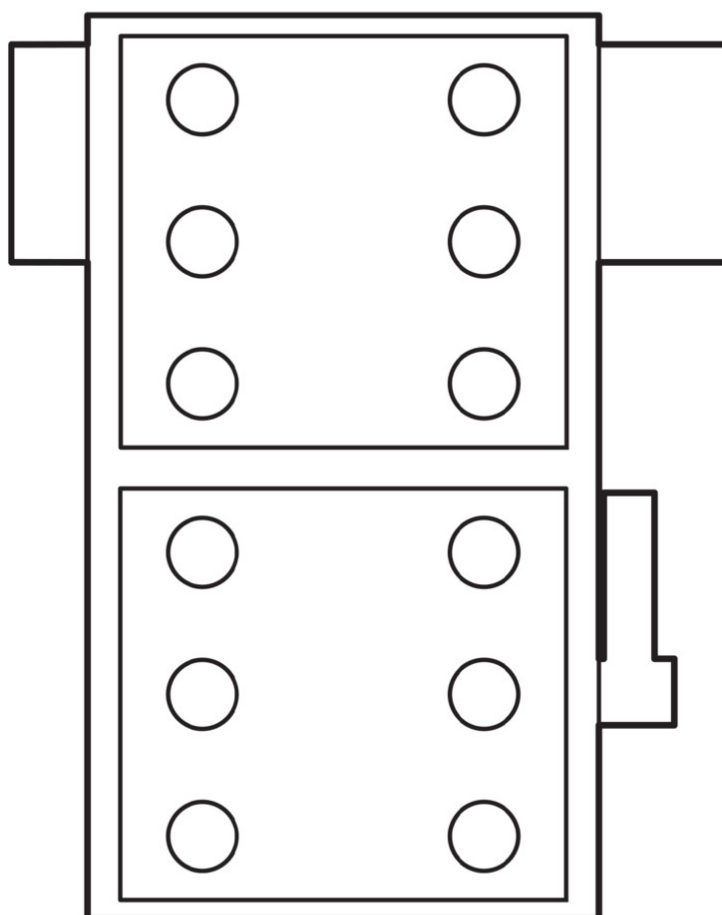


Type: HSCP-SP 1,5-... with HSCH 1,5-...U/... THR 9005

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Schematic diagram




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## Approvals

cULus Recognized 

Usegroup	B	F
Nominal voltage $U_N$	150 V	40 V
Nominal current $I_N$	8 A	8 A

EAC 

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