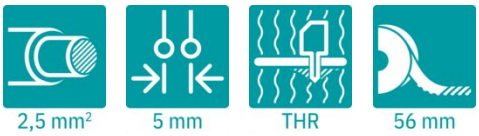
HSCH 2,5-3U/12 THR 9005 - PCB header

2203406

https://www.phoenixcontact.com/us/products/2203406

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PCB headers, nominal cross section: 2.5 mm², color: black, nominal current: 8 A, rated voltage (III/2): 250 V, contact surface: Sn, contact connection type: Pin, number of potentials: 12, number of rows: 2, number of positions: 12, number of connections: 12, product range: HSCH 2,5/..-G-THR, pitch: 5 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2.3 mm, number of solder pins per potential: 1, plug-in system: HSC 2,5, Pin connector pattern alignment: Standard, locking: without, mounting method: without, type of packaging: 56 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

Commercial data

Item number	2203406
Packing unit	150 pc
Minimum order quantity	150 pc
Sales key	AC15
Product key	ACHECB
GTIN	4055626386768
Weight per piece (including packing)	5.55 g
Weight per piece (excluding packing)	5.55 g
Customs tariff number	85366930
Country of origin	BG

Technical data

Product properties

Product type	PCB headers
Product family	HSCH 2,5/..-G-THR
Type	Component suitable for through hole reflow
Number of positions	12
Pitch	5 mm
Number of connections	12
Number of rows	2
Number of potentials	12
Pin layout	Linear pinning
Solder pins per potential	1

Fitting of components

Partial assembly	No

Electrical properties

Properties

Nominal current I_N	8 A
Nominal voltage U_N	250 V
Contact resistance	1.7 mΩ
Rated voltage (III/3)	160 V
Rated surge voltage (III/3)	4 kV
Rated voltage (III/2)	250 V
Rated surge voltage (III/2)	4 kV
Rated voltage (II/2)	320 V
Rated surge voltage (II/2)	4 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 (2 µm - 4 µm Sn)
Metal surface contact area (middle layer)	Nickel (1.3 µm - 3 µm Ni)
Metal surface soldering area (top layer)	Tin (2 µm - 4 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	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

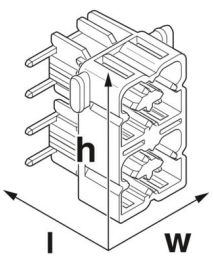
Notes

Assembly note	Please observe the application note in the download area.

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.
	• 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.
	• 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.
	• The item is intended to be an unencapsulated plug for installation in a housing.
	• Operate the connector only when it is fully plugged in.

Dimensions

Dimensional drawing	

Pitch	5 mm
Width [w]	17.45 mm
Height [h]	32.8 mm
Length [l]	16.4 mm
Solder pin length [P]	2.3 mm
Pin dimensions	0.8 x 0.8 mm

PCB design

Pin spacing	5.30 mm
Hole diameter	1.2 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

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	25
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	32

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	IIIb
Comparative tracking index (IEC 60112)	CTI 150
Rated insulation voltage (III/3)	160 V
Rated surge voltage (III/3)	4 kV
minimum clearance value - non-homogenous field (III/3)	3 mm
minimum creepage distance (III/3)	2.5 mm
Rated insulation voltage (III/2)	250 V
Rated surge voltage (III/2)	4 kV
minimum clearance value - non-homogenous field (III/2)	3 mm
minimum creepage distance (III/2)	2.5 mm
Rated insulation voltage (II/2)	320 V
Rated surge voltage (II/2)	4 kV
minimum clearance value - non-homogenous field (II/2)	3 mm
minimum creepage distance (II/2)	3.2 mm

Environmental and real-life conditions

Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	4.8 kV
Contact resistance R_1	1.7 mΩ
Contact resistance R_2	1.9 mΩ
Insertion/withdrawal cycles	25
Insulation resistance, neighboring positions	> 5 MΩ

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	2.21 kV

Vibration test

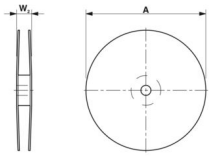
Specification	IEC 60068-2-6:2007-12
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 Hz ... 60.1 Hz)
Acceleration	5g (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h
Test directions	X-, Y- and Z-axis

Ambient conditions

Ambient temperature (storage/transport)	-40 °C ... 55 °C

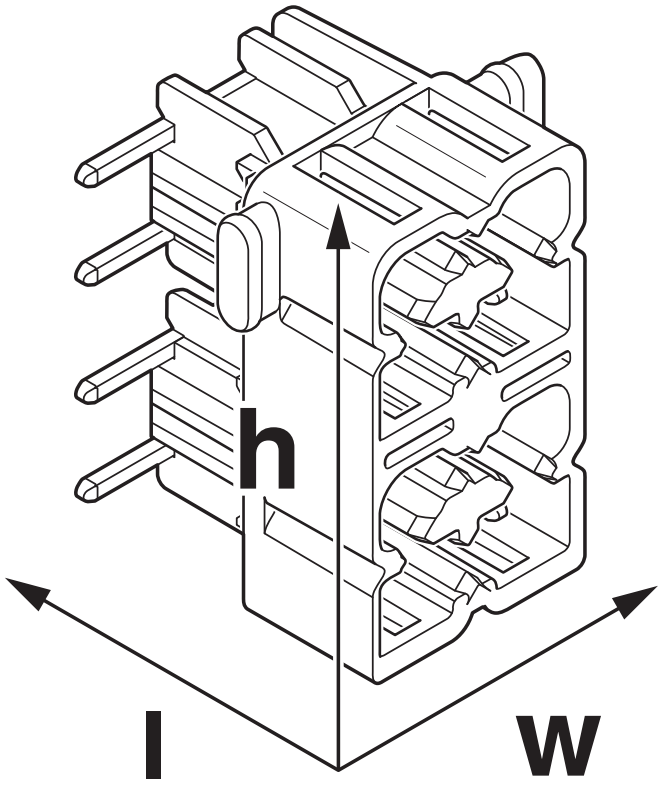
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C
Ambient temperature (operation)	-40 °C ... 105 °C (dependent on the derating curve)

Packaging specifications

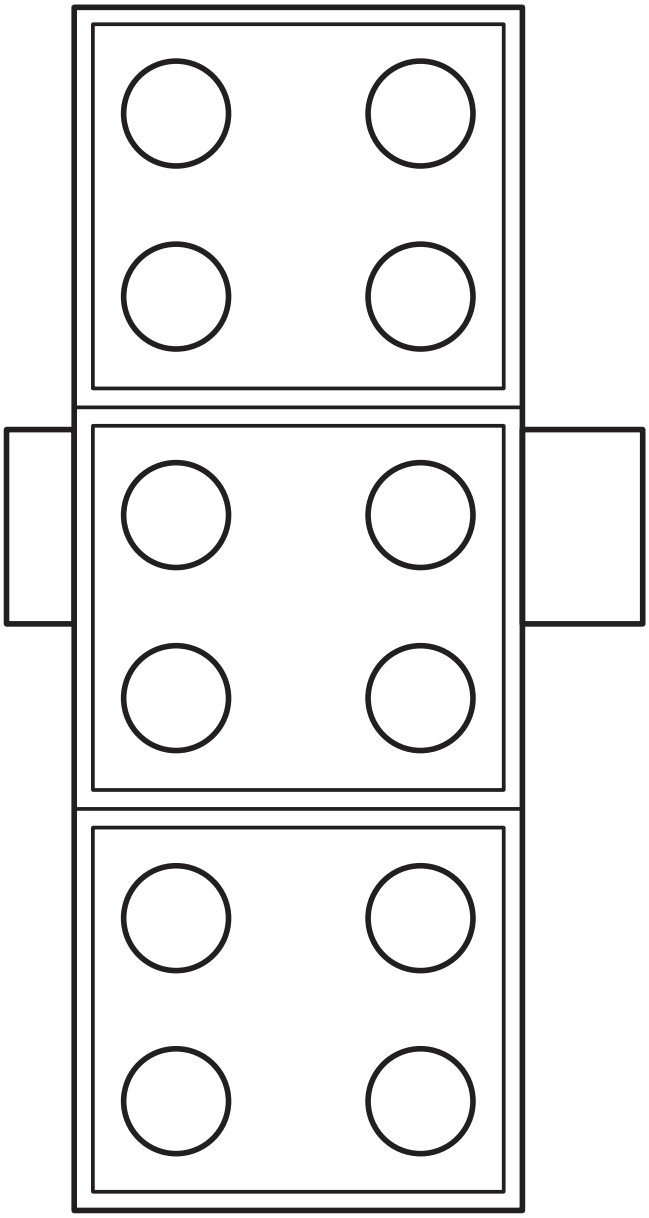
Dimensional drawing	
Type of packaging	56 mm wide tape
[W] tape width	56 mm
[W2] coil overall dimension	62.4 mm
[A] coil diameter	330 mm
Outer packaging type	Transparent-Bag

Drawings

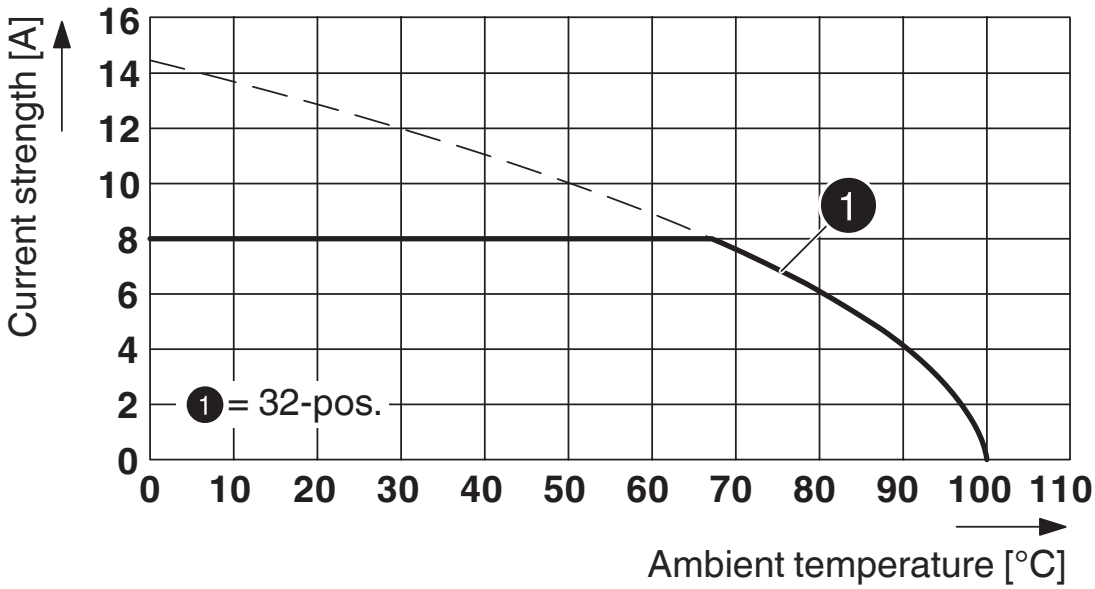
Dimensional drawing



Schematic diagram



Diagram



Type: HSCP-SP 2,5-... with HSCH 2,5-...U/... THR 9005

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2203406

cULus Recognized
Approval ID: E60425-20150613

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
B				
	150 V	8 A	-	-
F				
	160 V	8 A	-	-

VDE Zeichengenehmigung
Approval ID: 40045764

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine				
	630 V	8 A	-	-

Classifications

ECLASS

ECLASS-13.0	27460201
ECLASS-15.0	27460201

ETIM

ETIM 10.0	EC002637

UNSPSC

UNSPSC 21.0	39121400

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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