

MC 0,5/ 5-G-2,54 P20THRR44C2 - PCB header



1706203

<https://www.phoenixcontact.com/de/produkte/1706203>

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: Gold, type of contact: Male connector, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: MC 0,5/..-G-THR, pitch: 2.54 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2 mm, number of solder pins per potential: 1, plug-in system: COMBICON FMC 0,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: 44 mm wide tape, Fixed coding of the last position, can be combined with the FMC 0,5/...-ST-2,54 C2 connector

Your advantages

- Designed for integration into the SMT soldering process
- Additional solder anchors reduce the mechanical strain on the soldering spots
- Gold-plated contacts ensure transfer quality remains stable over the long term
- Supplied in tape-on-reel packing according to IEC 60286-3 for automated mounting

Commercial Data

Item number	1706203
Packing unit	465 pc
Minimum order quantity	465 pc
Note	Made to Order (non-returnable)
Sales Key	E1 - Leiterplattenanschl.
Product Key	AAATAA
Catalog Page	Page 178 (C-1-2013)
GTIN	4046356841580
Weight per Piece (including packing)	1,83 g
Weight per Piece (excluding packing)	1,83 g
Customs tariff number	85366930
Country of origin	PL

Technical Data

Product properties

Type	Component suitable for through hole reflow
Product line	COMBICON Connectors XS
Product type	PCB headers
Product family	MC 0,5/...-G-THR
Number of positions	5
Pitch	2.54 mm
Number of connections	5
Number of rows	1
Mounting flange	without
Number of potentials	5
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	2.1 mΩ
Rated voltage (III/3)	32 V
Rated surge voltage (III/3)	2.5 kV
Rated voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
	160 V
Rated surge voltage (II/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	Completely gold-plated

MC 0,5/ 5-G-2,54 P20THRR44C2 - PCB header



1706203

<https://www.phoenixcontact.com/de/produkte/1706203>

Metal surface contact area (top layer)	Gold (0.25 Au)
Metal surface contact area (middle layer)	Nickel (2 - 4 µm Ni)
Metal surface soldering area (top layer)	Gold (0.25 Au)
Metal surface soldering area (middle layer)	Nickel (2 - 4 µm Ni)

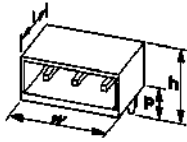
Material data - housing

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	2.54 mm
Width [w]	17.24 mm
Height [h]	6.85 mm
Length [l]	7.1 mm
Installed height	4.85 mm
Solder pin length [P]	2 mm

Mechanical tests

Tensile strength of crimp connections

Result	Test passed
Conductor cross section/conductor type/tractive force setpoint/actual value	0.14 mm ² / flexible / > 18 N

Insertion and withdrawal forces

Result	Test passed
No. of cycles	100
Insertion strength per pos. approx.	2 N
Withdraw strength per pos. approx.	3 N

Contact holder in insert

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

Resistance of inscriptions

MC 0,5/ 5-G-2,54 P20THRR44C2 - PCB header



1706203

<https://www.phoenixcontact.com/de/produkte/1706203>

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	16

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)	32 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)	1.5 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

Vibration test

Specification	IEC 60068-2-6:2007-12
Frequency	10 - 500 - 10 Hz

MC 0,5/ 5-G-2,54 P20THRR44C2 - PCB header



1706203

<https://www.phoenixcontact.com/de/produkte/1706203>

Sweep speed	1 octave/min
Amplitude	0.35 mm (10 Hz ... 60.1 Hz)
Sweep speed	5g (60.1 Hz ... 500 Hz)
Test duration per axis	2 h

Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	2.95 kV
Contact resistance R_1	2.1 m Ω
Contact resistance R_2	2.1 m Ω
Insertion/withdrawal cycles	100
Insulation resistance, neighboring positions	> 5 M Ω

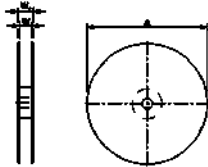
Climatic test

Specification	DIN 50018:2013-05
Corrosive stress	1.0 dm ³ SO ₂ on 300 dm ³ /40 °C/1 cycle
Thermal stress	105 °C/168 h
Power-frequency withstand voltage	1.39 kV

Ambient conditions

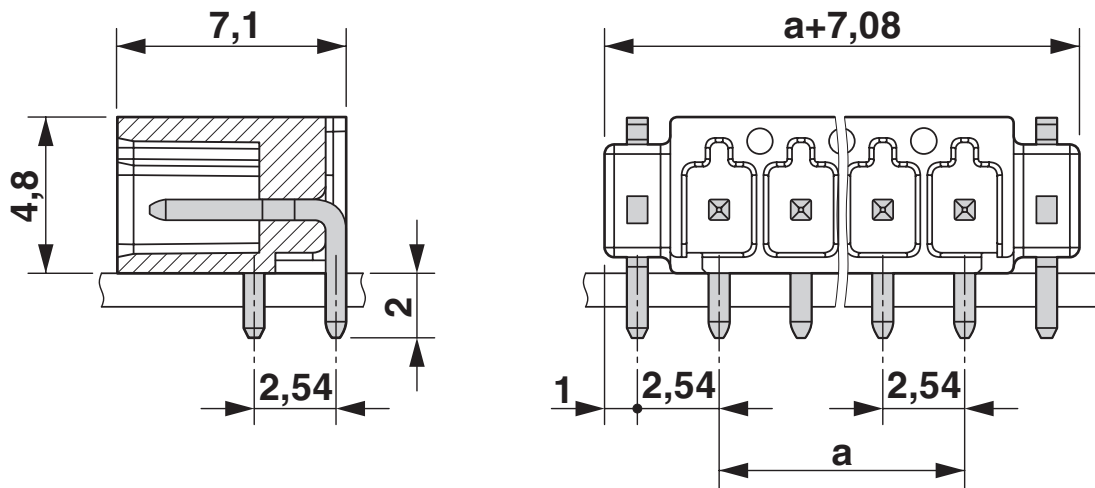
Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

Packaging specifications

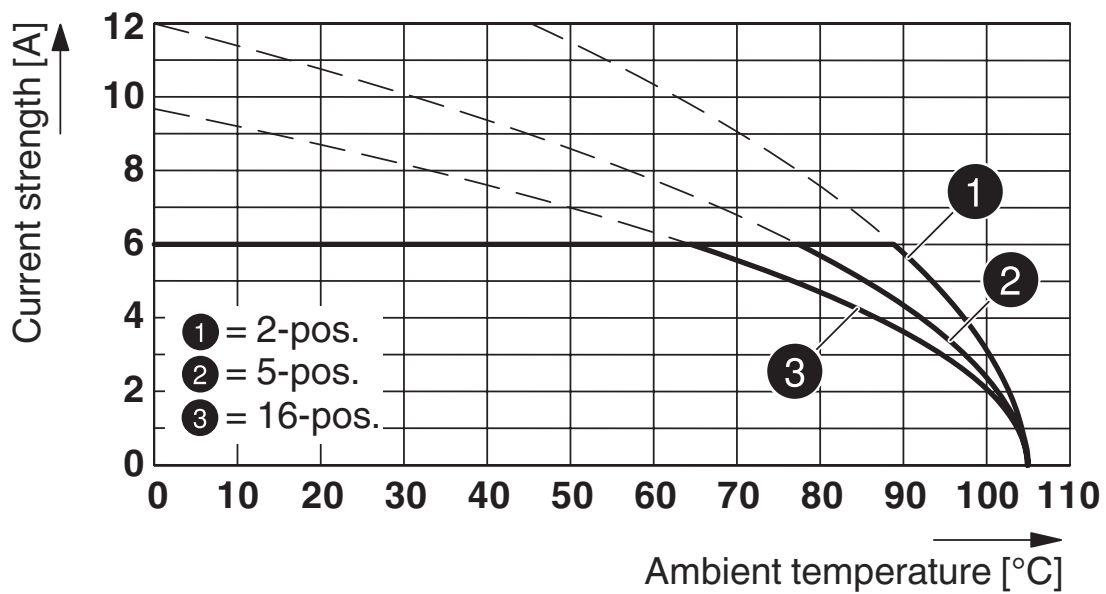
Dimensional drawing	
Type of packaging	44 mm wide tape
[W] tape width	44 mm
[W2] coil overall dimension	50.4 mm
[A] coil diameter	330 mm
Outer packaging type	Transparent-Bag
ESD level	(D) electrostatically conductive
Specification	DIN EN 61340-5-1 (VDE 0300-5-1): 2008-07

Drawings

Dimensional drawing

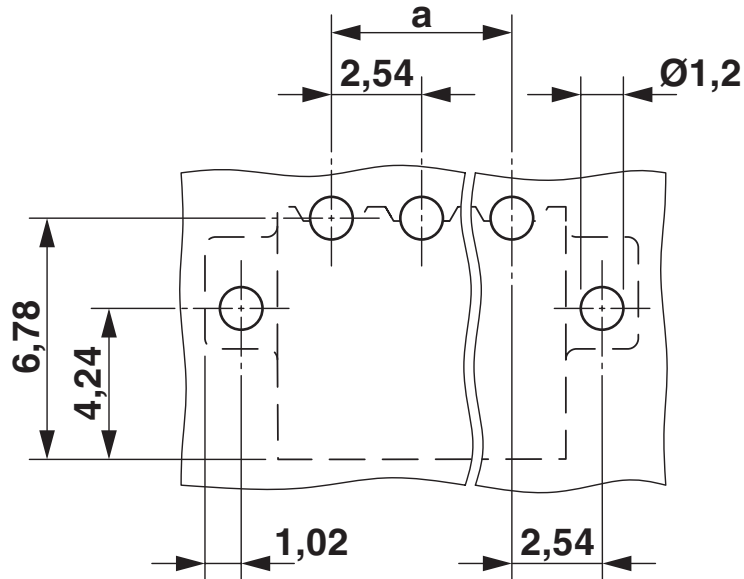


Diagram

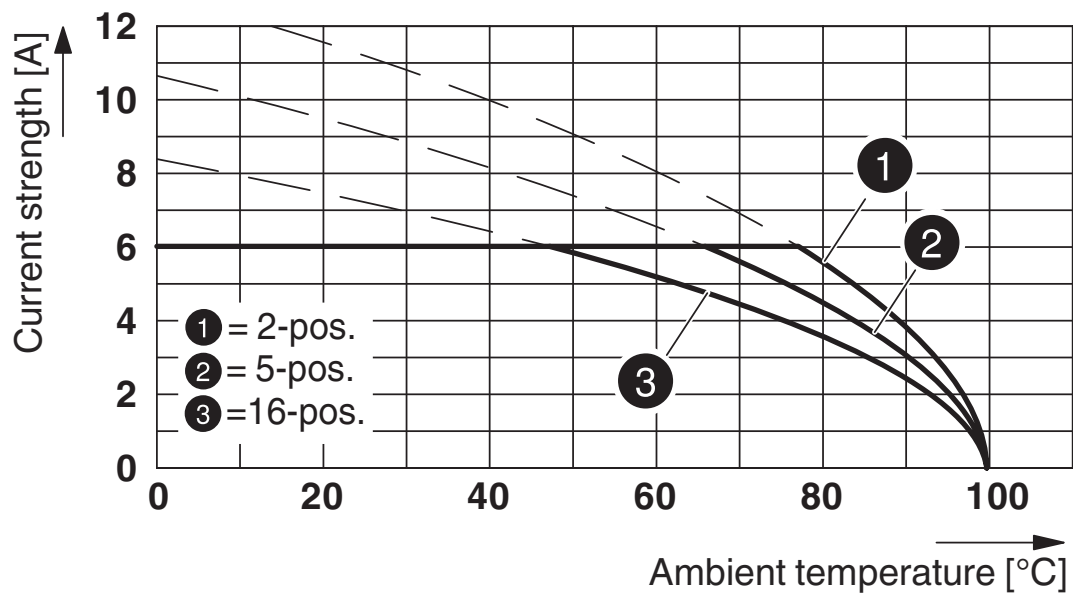


Type: MCC 0,5/...-ST-2,54 with MC 0,5/...-G-2,54 P20 THR R...

Drilling plan/solder pad geometry



Diagram



Type: FMC 0,5/...-ST-2,54 with MC 0,5/...-G-2,54 P20 THR R..


MC 0,5/ 5-G-2,54 P20THRR44C2 - PCB header




1706203


<https://www.phoenixcontact.com/de/produkte/1706203>

Approvals

 IECEE CB Scheme Approval ID: DE1-63595				
	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	160 V	6 A	-	-

 EAC Approval ID: B.01687				
--	--	--	--	--

 cULus Recognized Approval ID: E60425-19920306				
	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
Use group B				
	150 V	6 A	-	-
Use group C				
	50 V	6 A	-	-

 VDE report with production monitoring Approval ID: 40042258				
	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	160 V	6 A	-	-

MC 0,5/ 5-G-2,54 P20THRR44C2 - PCB header



1706203

<https://www.phoenixcontact.com/de/produkte/1706203>

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

MC 0,5/ 5-G-2,54 P20THRR44C2 - PCB header



1706203

<https://www.phoenixcontact.com/de/produkte/1706203>

Environmental Product Compliance

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

MC 0,5/ 5-G-2,54 P20THRR44C2 - PCB header



1706203

<https://www.phoenixcontact.com/de/produkte/1706203>

Accessories

SK 2,54/2,8:FORTL.ZAHLEN - Marker card

0804853

<https://www.phoenixcontact.com/de/produkte/0804853>



Marker card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 99, mounting type: adhesive, for terminal block width: 2.54 mm, lettering field size: 2.54 x 2.8 mm

FMC 0,5/ 5-ST-2,54 C2 - Printed-circuit board connector

1706240

<https://www.phoenixcontact.com/de/produkte/1706240>



PCB connector, nominal cross section: 0.5 mm², color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Gold, type of contact: Female connector, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: FMC 0,5/..-ST, pitch: 2.54 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, number of solder pins per potential: 1, plug-in system: COMBICON FMC 0,5, locking: without, mounting: without, type of packaging: packed in cardboard, Fixed coding of last position; can be combined with MC(V) 0,5/...-G-2,54...C2 headers

Phoenix Contact 2023 © - all rights reserved

<https://www.phoenixcontact.com>

PHOENIX CONTACT Deutschland GmbH

Flachmarktstraße 8

D-32825 Blomberg

+49 52 35/3-1 20 00

info@phoenixcontact.de