

PCB header - MC 0,5/10-G-2,54 P20THRR44C2



1706197

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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: 10, number of rows: 1, number of positions: 10, number of connections: 10, product range: MC 0,5/..-G-THR, pitch: 2.54 mm, 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

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1706197

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Commercial Data

Item number	1706197
Packing unit	1 pc
Minimum order quantity	465 pc
Sales Key	A01
Product Key	AAATAA
Catalog Page	Page 178 (C-1-2013)
GTIN	4046356841634
Weight per Piece (including packing)	2.341 g
Weight per Piece (excluding packing)	2.22 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
Number of positions	10
Pitch	2.54 mm
Number of connections	10
Number of rows	1
Mounting flange	without
Number of potentials	10
Pin layout	Linear pinning

Electrical properties

Nominal current I_N	6 A
Nominal voltage U_N	160 V
Pollution degree	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

Mounting

Mounting type THR soldering	THR soldering
Mounting type	THR soldering

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
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)

PCB header - MC 0,5/10-G-2,54 P20THRR44C2



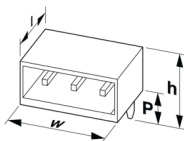
1706197

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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

Dimensions

Dimensional drawing	
Pitch	2.54 mm
Width [w]	29.94 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

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

Polarization and coding

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

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1706197

<https://www.phoenixcontact.com/us/products/1706197>

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
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 - 60.1 Hz)
Sweep speed	5g (60,1 - 500 Hz)
Test duration per axis	2 h

Durability test

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1706197

<https://www.phoenixcontact.com/us/products/1706197>

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

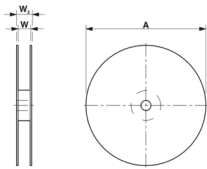
Climatic test

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

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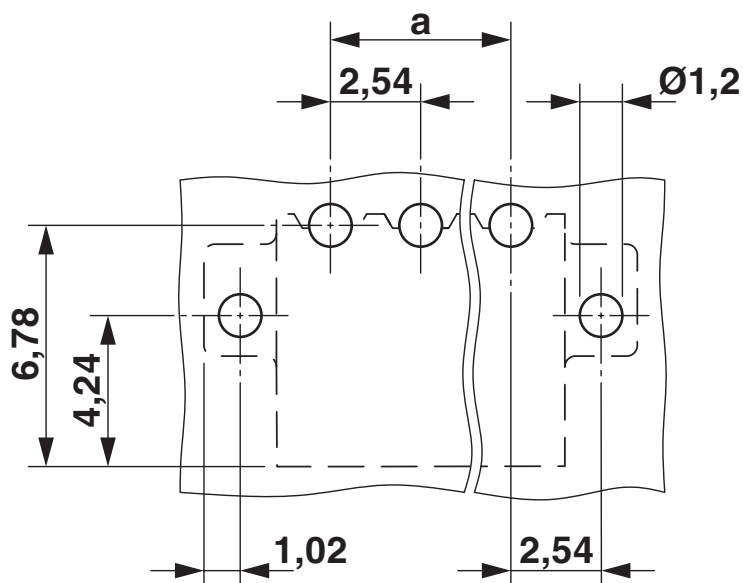


1706197

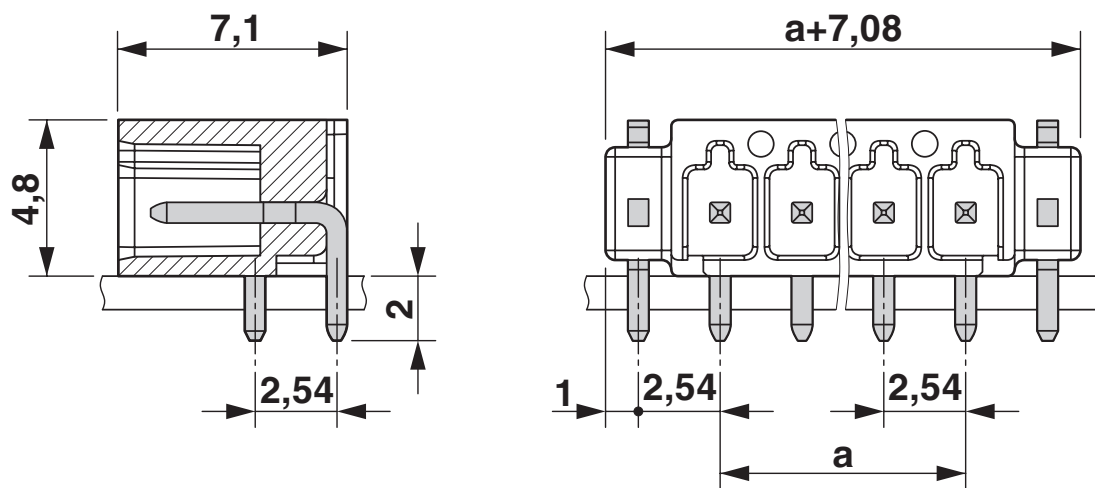
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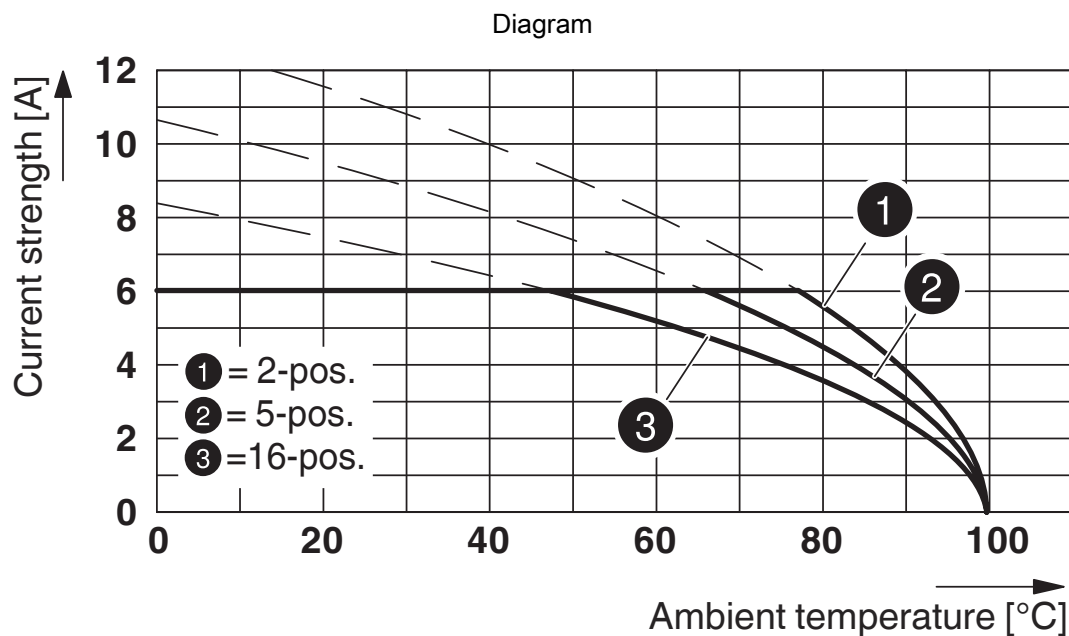
Drawings

Drilling plan/solder pad geometry

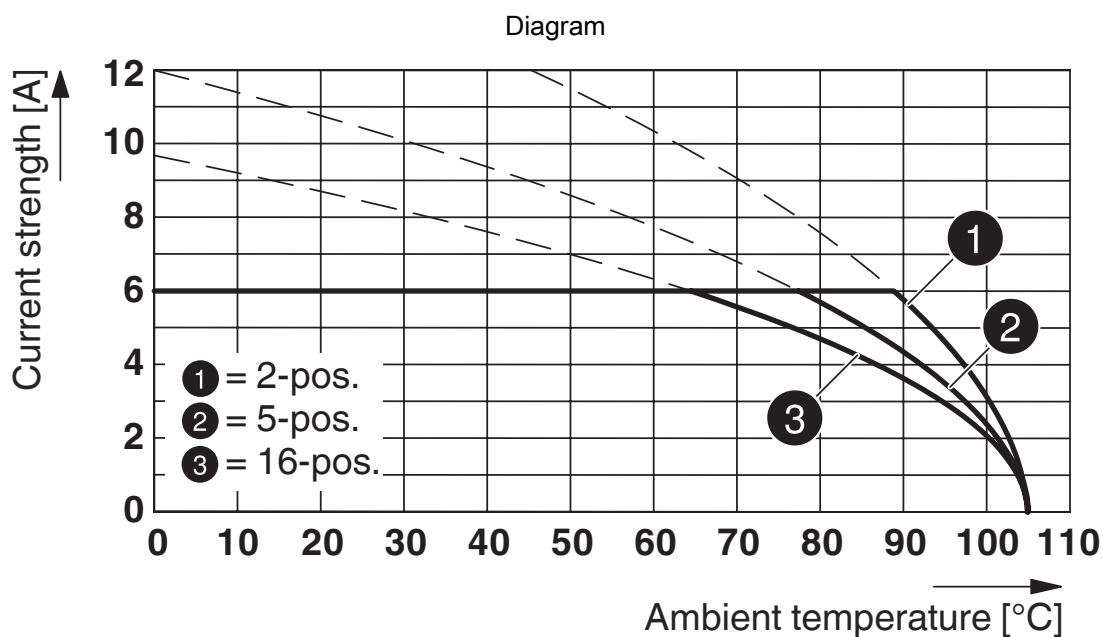


Dimensional drawing





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



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

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1706197

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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
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	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	-	-

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1706197

<https://www.phoenixcontact.com/us/products/1706197>

Classifications

ECLASS

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

ETIM

ETIM 8.0	EC002637
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UNSPSC

UNSPSC 21.0	39121400
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1706197

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Environmental Product Compliance

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

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1706197

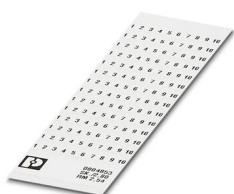
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Accessories

Marker card

Marker card - SK 2,54/2,8:FORTL.ZAHLEN - 0804853

<https://www.phoenixcontact.com/us/products/0804853>

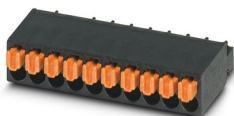


Marker card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 99, mounting type: adhesive, for terminal block width: 2.54 mm, lettering field size: 2.54 x 2.8 mm

Printed-circuit board connector

Printed-circuit board connector - FMC 0,5/10-ST-2,54 C2 - 1706234

<https://www.phoenixcontact.com/us/products/1706234>



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: 10, number of rows: 1, number of positions: 10, number of connections: 10, 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

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