

# Printed-circuit board connector - MC 0,5/ 4-G-2,54 P20THRR24C1 - 1706223

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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: Gold, 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: MC 0,5/...-G-THR, pitch: 2.54 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2 mm, plug-in system: MICRO COMBICON - FMC 0,5, Pin connector pattern alignment: Standard, Locking: without, mounting: without, type of packaging: 24 mm wide tape, Fixed coding of the first position, can be combined with the FMC 0,5/...-ST-2,54 C1 connector



The figure shows the 10-position version

## 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



## Key Commercial Data

Packing unit	465 pc
Minimum order quantity	465 pc
GTIN	
GTIN	4046356841429

## Technical data

### Item properties

Brief article description	PCB header
Connector system	MICRO COMBICON - FMC 0,5
Type of contact	Male connector
Range of articles	MC 0,5/...-G-THR
Pitch	2.54 mm
Number of positions	4
Mounting type	THR soldering
Pin layout	Linear pinning

# Printed-circuit board connector - MC 0,5/ 4-G-2,54 P20THRR24C1 - 1706223

## Technical data

### Item properties

Locking	without
Number of rows	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)	32 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	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)

### 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

Caption	Schematische Abbildung - weitere Details siehe Produktfamilienzeichnung im Download Center
Length [ l ]	7.1 mm
Width [ w ]	14.7 mm
Height [ h ]	6.85 mm

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## Technical data

### Dimensions for the product

Pitch	2.54 mm
Height (without solder pin)	4.85 mm
Solder pin [P]	2 mm
Pin dimensions	0.64 x 0.64 mm

### Dimensions for PCB design

Hole diameter	1.2 mm
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### Packaging information

Type of packaging	24 mm wide tape
Pieces per package	465
Denomination packing units	Pcs.
[W] tape width	24 mm
[A] coil diameter	330 mm
[W2] coil overall dimension	30.4 mm
Outer packaging type	Transparent-Bag
ESD level	(D) electrostatically conductive
Specification	DIN EN 61340-5-1 (VDE 0300-5-1): 2008-07

### 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
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)	1.5 mm
Minimum creepage distance value (III/2)	1.6 mm
Minimum creepage distance value (II/2)	1.6 mm

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## Technical data

### Mechanical tests (A)

Test specification	IEC 61984
Insertion strength per pos. approx.	2 N
Withdraw strength per pos. approx.	3 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 <sub>1</sub>	2.1 mΩ
Insertion/withdrawal cycles	100
Contact resistance R <sub>2</sub>	2.1 mΩ
Impulse withstand voltage at sea level	2.95 kV

### Thermal tests (C)

Specification	IEC 60512-5-1:2002-02
Number of positions	16
Upper limiting temperature requirements <100 °C	Test passed

### Climatic tests (D)

Specification	DIN 50018:2013-05
Cold stress	-55 °C/2 h
Thermal stress	105 °C/168 h
Corrosive stress	1.0 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

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)
Acceleration	5g (60,1 - 500 Hz)
Test duration per axis	2 h

### Standards and Regulations

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

### Environmental Product Compliance

# Printed-circuit board connector - MC 0,5/ 4-G-2,54 P20THRR24C1 - 1706223

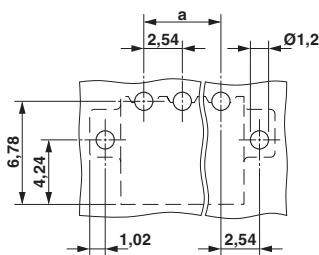
## Technical data

### Environmental Product Compliance

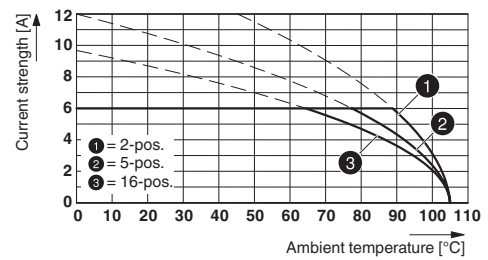
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

## Drawings

Drilling diagram

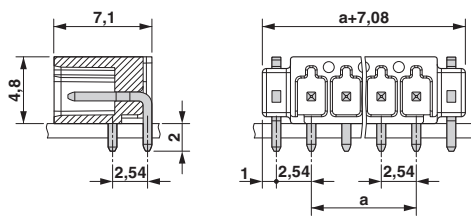


Diagram

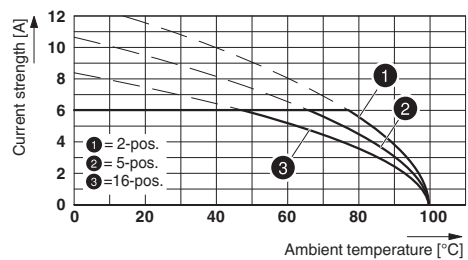


Type: MCC 0,5/...-ST-2,54 with MC 0,5/...-G-2,54 P20 THR R...

Dimensional drawing



Diagram



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

## 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 9.0	27440402

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## Classifications

### ETIM

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

### UNSPSC

UNSPSC 6.01	30211810
UNSPSC 7.0901	39121409
UNSPSC 11	39121409
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


### Approvals

#### Approvals

VDE Gutachten mit Fertigungsüberwachung / IECCEB Scheme / EAC / cULus Recognized

#### Ex Approvals

### Approval details

VDE Gutachten mit Fertigungsüberwachung		<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>	40042258
Nominal voltage UN	160 V		
Nominal current IN	6 A		

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## Approvals

IECEE CB Scheme	<b>CB</b> scheme	<a href="http://www.iecee.org/">http://www.iecee.org/</a>	DE1-63595
Nominal voltage UN		160 V	
Nominal current IN		6 A	

EAC	<b>EAC</b>	B.01687
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cULus Recognized	<b>cULus</b>	<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>	E60425-19920306
	B	C	
Nominal voltage UN	150 V	50 V	
Nominal current IN	6 A	6 A	

## Accessories

### Accessories

#### Labeled terminal marker

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



Marker card, 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

## Additional products

### Printed-circuit board connector - FMC 0,5/ 4-ST-2,54 C1 - 1706261



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: Gold, 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: FMC 0,5/..-ST, pitch: 2.54 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, plug-in system: MICRO COMBICON - FMC 0,5, Locking: without, mounting: without, type of packaging: packed in cardboard, Fixed coding of the first position, can be combined with MC(V) 0,5/...-G-2,54...C1 headers

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