

SAMPLE DMC 0,5/12-G1-2,54 THR - PCB header



1859592

<https://www.phoenixcontact.com/in/products/1859592>

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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: Pin, number of potentials: 24, number of rows: 2, number of positions: 12, number of connections: 24, product range: DMC 0,5/..-G1-THR, pitch: 2.54 mm, mounting: THR soldering, solder pin [P]: 2 mm, number of solder pins per potential: 1, plug-in system: COMBICON DFMC 0,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard

Your advantages

- Gold-plated contacts ensure transfer quality remains stable over the long term
- Designed for integration into the SMT soldering process
- Conductor connection on several levels enables higher contact density
- Small component size for applications where space is at a premium
- Supplied in tape-on-reel packing according to IEC 60286-3 for automated mounting

Commercial Data

Item number	1859592
Packing unit	5 pc
Minimum order quantity	5 pc
Note	Made to Order (non-returnable)
Sales Key	AAA
Product Key	AAATDA
GTIN	4055626111995
Weight per Piece (including packing)	4.03 g
Weight per Piece (excluding packing)	4.03 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	DMC 0,5/...-G1-THR
Number of positions	12
Pitch	2.54 mm
Number of connections	24
Number of rows	2
Mounting flange	without
Number of potentials	24
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	2.7 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
Rated voltage (II/2)	160 V
Rated surge voltage (II/2)	2.5 kV

Mounting

Mounting type	THR soldering
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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)

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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 ()	()
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Dimensions

Dimensional drawing	
Pitch	2.54 mm
Width [w]	30.98 mm
Height [h]	7.39 mm
Length [l]	9.64 mm
Solder pin length [P]	2 mm

PCB design

Pin spacing	2.54 mm
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Mechanical tests

Test for conductor damage and slackening

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

Repeated connection and disconnection

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	0.14 mm ² / solid / > 10 N
	0.14 mm ² / flexible / > 10 N
	0.5 mm ² / solid / > 20 N
	0.5 mm ² / flexible / > 20 N

Insertion and withdrawal forces

Result	Test passed
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No. of cycles	100
Insertion strength per pos. approx.	2 N
Withdraw strength per pos. approx.	1 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

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

Temperature cycles

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

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)	1.3 mm
Rated insulation voltage (III/2)	160 V

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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 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	2.7 mΩ
Contact resistance R ₂	2.9 mΩ
Contact resistance R ₂ 2nd level	3.1 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/3 cycles
Thermal stress	100 °C/168 h
Power-frequency withstand voltage	1.39 kV

Ambient conditions

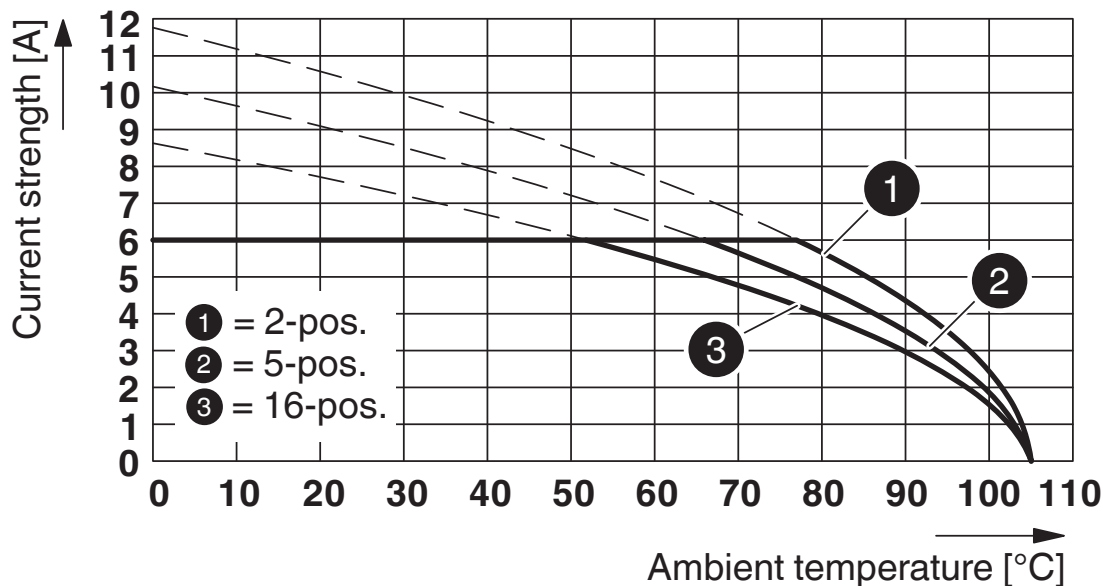
Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

Packaging specifications

Type of packaging	packed in cardboard
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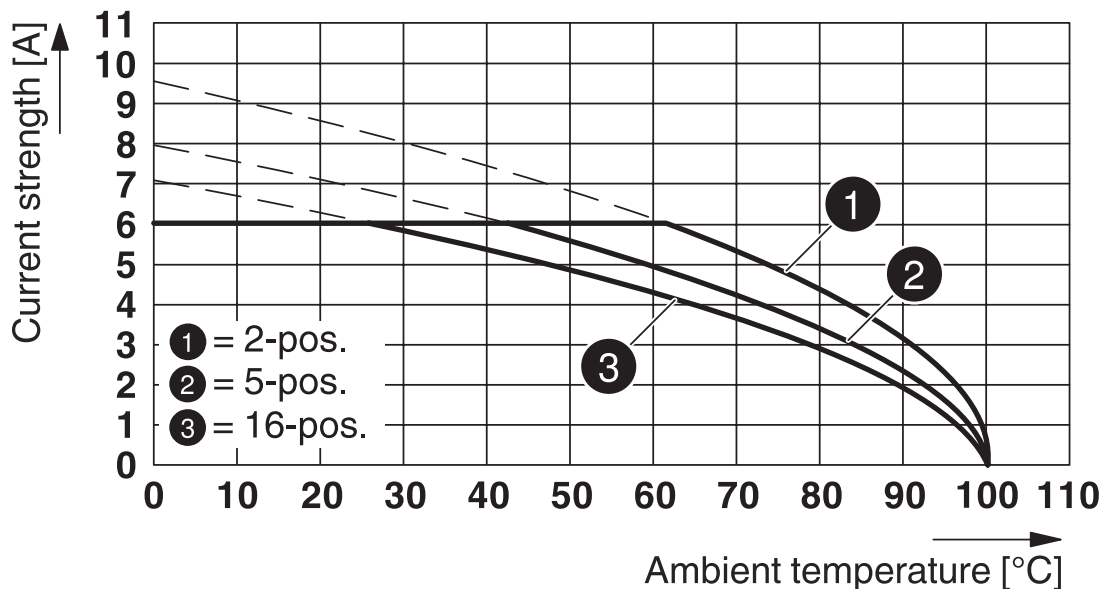
Drawings

Diagram



Type: DMCC 0.5/...-ST-2.54 with DMC 0.5/...-G1-2.54 P...THR R...

Diagram



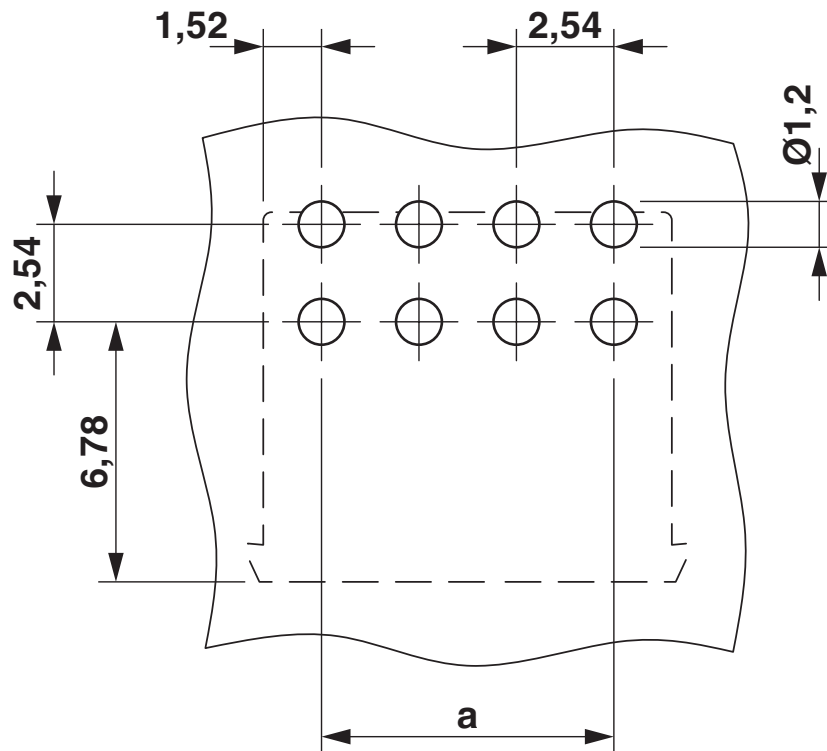
Type: DFMC 0,5/...-ST-2,54-RF with DMC 1,5/...-G1-2,54 P...THR R...

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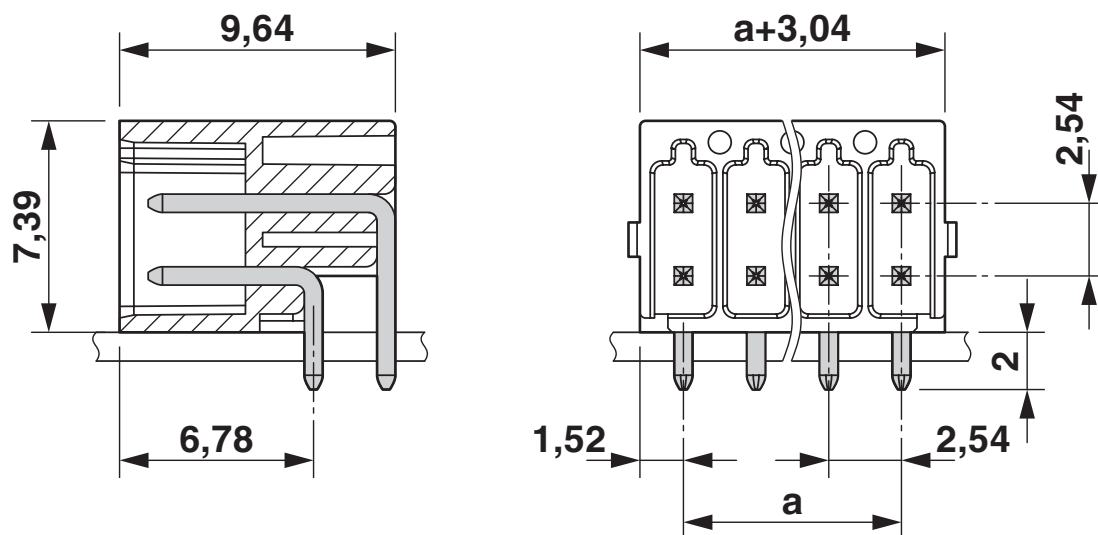
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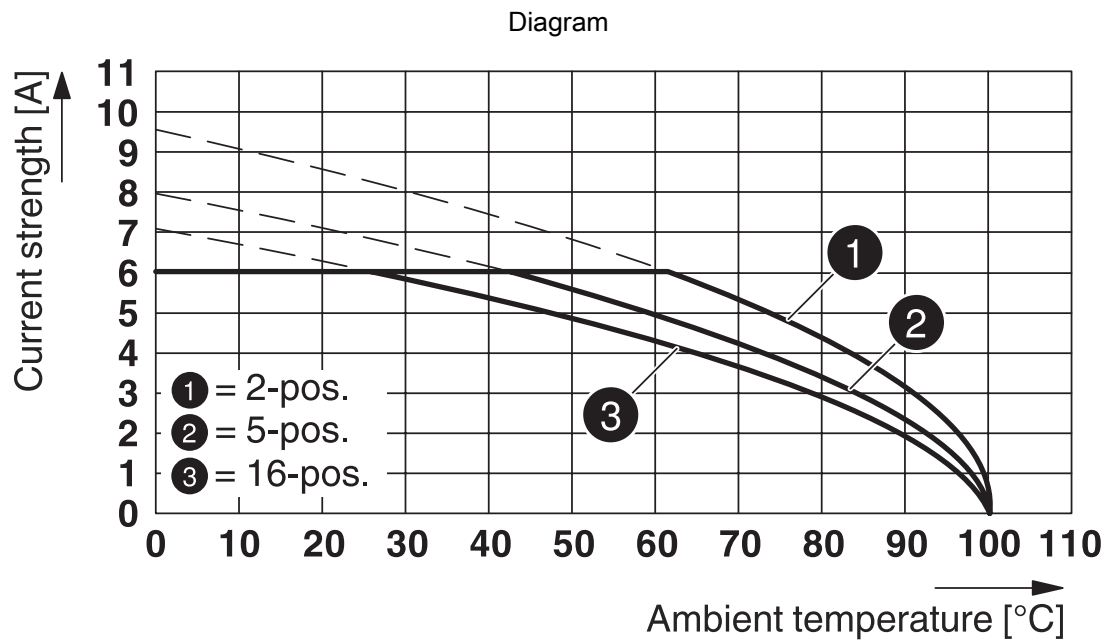
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Drilling plan/solder pad geometry



Dimensional drawing





Type: DFMC 0,5/...-ST-2,54 with DMC 0,5/...-G1-2,54 P...THR R...

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Approvals



EAC

Approval ID: B.01687

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Classifications

ECLASS

ECLASS-11.0	27460201
ECLASS-12.0	27460201
ECLASS-13.0	27460201

ETIM

ETIM 8.0	EC002637
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UNSPSC

UNSPSC 21.0	39121400
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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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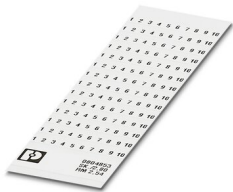
<https://www.phoenixcontact.com/in/products/1859592>

Accessories

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

0804853

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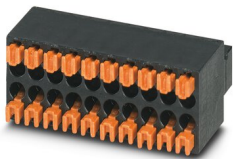


Marker card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 99, mounting type: adhesive, for terminal block width: 2.54 mm, lettering field size: 2.54 x 2.8 mm

DFMC 0,5/12-ST-2,54 - PCB connector

1844675

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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: Socket, number of potentials: 24, number of rows: 2, number of positions: 12, number of connections: 24, product range: DFMC 0,5/..-ST, pitch: 2.54 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, plug-in system: COMBICON DFMC 0,5, locking: without, mounting: without, type of packaging: packed in cardboard

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