

SAMPLE DMC 0,5/ 9-G1-2,54 THR - PCB header



1859563

<https://www.phoenixcontact.com/in/products/1859563>

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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: 18, number of rows: 2, number of positions: 9, number of connections: 18, 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	1859563
Packing unit	5 pc
Minimum order quantity	5 pc
Note	Made to Order (non-returnable)
Sales Key	AAA
Product Key	AAATDA
GTIN	4055626111964
Weight per Piece (including packing)	3.02 g
Weight per Piece (excluding packing)	3.02 g
Customs tariff number	85366930
Country of origin	PL

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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	9
Pitch	2.54 mm
Number of connections	18
Number of rows	2
Mounting flange	without
Number of potentials	18
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)

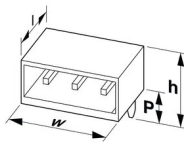
Material data - housing

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]	23.36 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

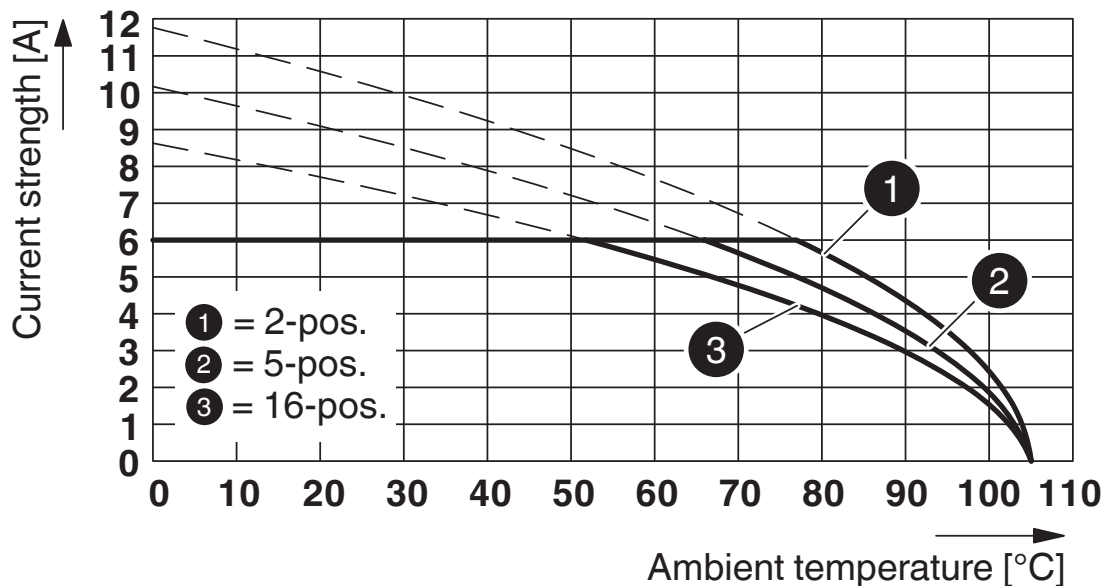
Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

Packaging specifications

Type of packaging	packed in cardboard
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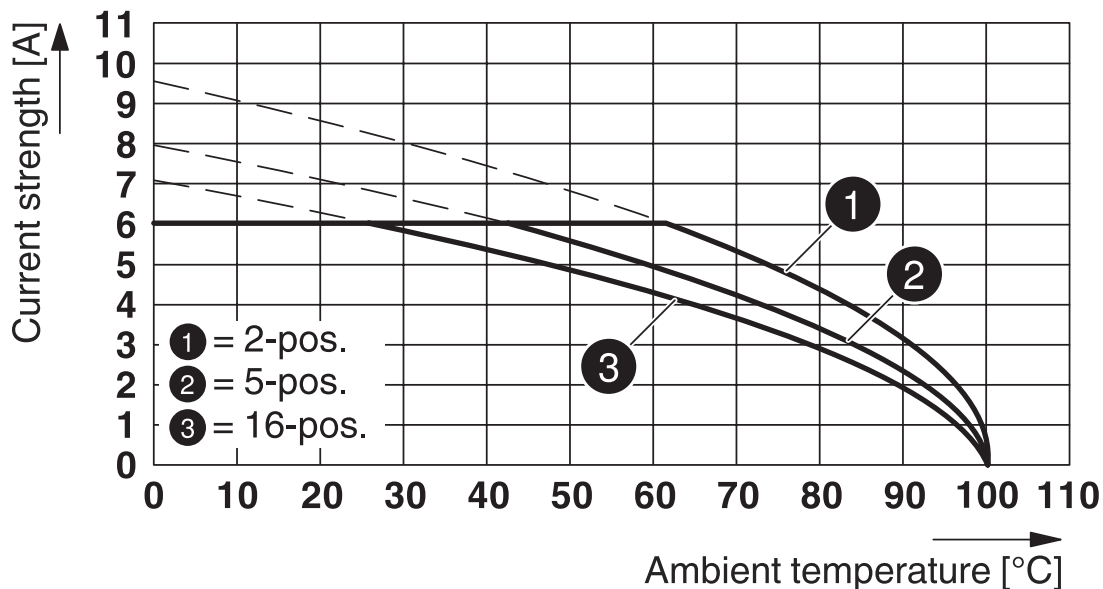
Drawings

Diagram



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

Diagram



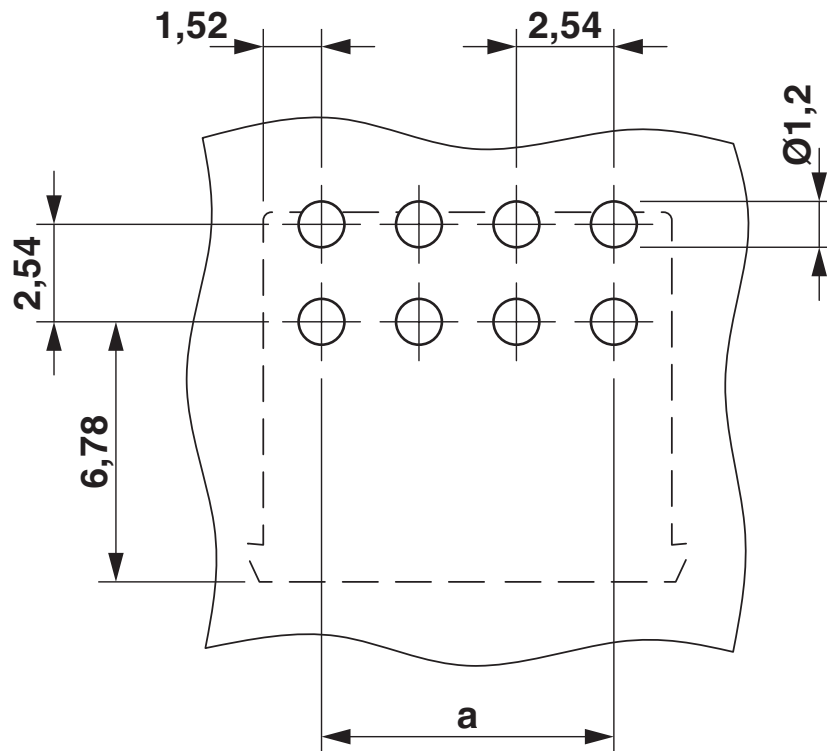
Type: DFMC 0.5/...-ST-2.54-RF with DMC 1.5/...-G1-2.54 P...THR R...

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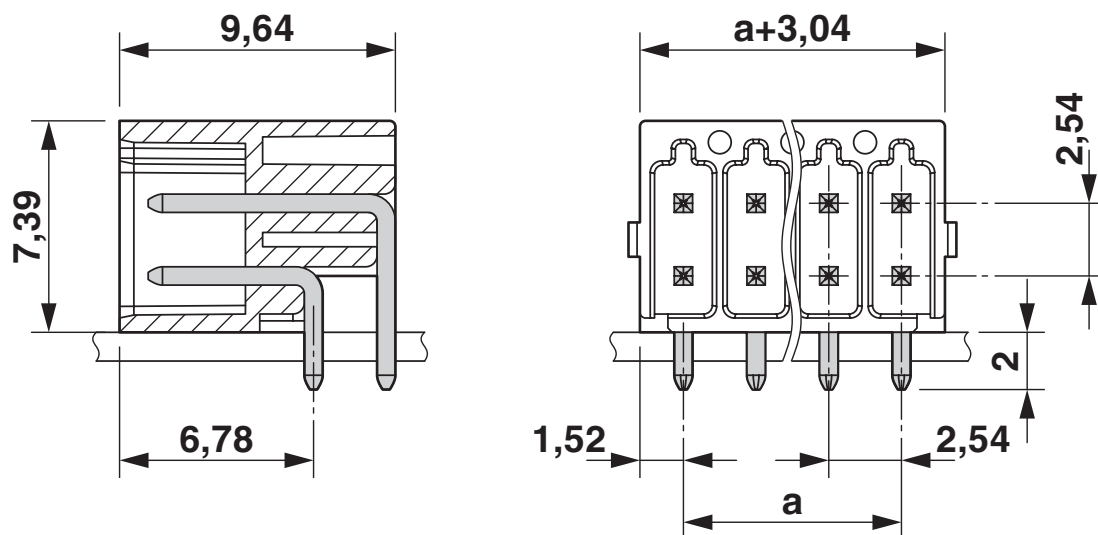
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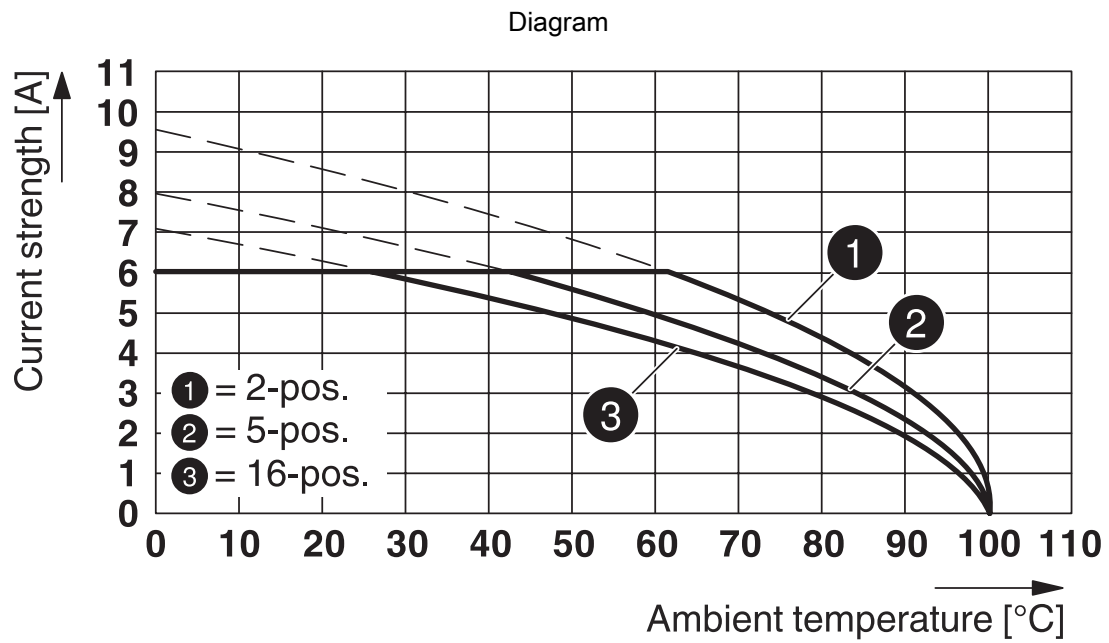
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Drilling plan/solder pad geometry



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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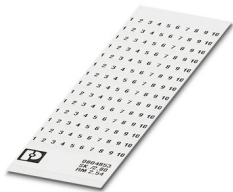
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Accessories

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

0804853

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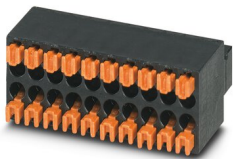


Marker card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 99, mounting type: adhesive, for terminal block width: 2.54 mm, lettering field size: 2.54 x 2.8 mm

DFMC 0,5/ 9-ST-2,54 - PCB connector

1844646

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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: 18, number of rows: 2, number of positions: 9, number of connections: 18, 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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