

DMC 0,5/ 2-G1SH-2,54P20THR24 - PCB header



1097546

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PCB headers, color: black, nominal current: 5 A, rated voltage (III/2): 160 V, contact surface: Au, contact connection type: Pin, number of positions: 2, product range: DMC 0,5/..-G1-SH-THR, pitch: 2.54 mm, mounting: THR soldering / wave soldering, solder pin [P]: 2 mm, plug-in system: COMBICON DFMC 0,5 shielded, Electrical properties: shielded, Pin connector pattern alignment: Standard, locking: shielded connection, mounting method: without, type of packaging: 24 mm wide tape, Suitable for CAT5

Your advantages

- Satisfies CAT5 requirements in accordance with EN 50173 and ISO/IEC 11801

Commercial data

Item number	1097546
Packing unit	300 pc
Minimum order quantity	300 pc
Sales key	AAAJAA
Product key	AAAJAA
GTIN	4055626938936
Weight per piece (including packing)	2,639 g
Weight per piece (excluding packing)	2,22 g
Customs tariff number	85366930
Country of origin	PL

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Technical data

Product properties

Product family	DMC 0,5/...-G1-SH-THR
Product line	COMBICON Connectors XS
Number of positions	2
Pitch	2.54 mm
Electrical characteristic	shielded

Electrical properties

Properties

Nominal current I_N	5 A
Nominal voltage U_N	160 V
Contact resistance	4.8 mΩ
Rated voltage (III/3)	50 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
Electrical characteristic	shielded

Data transmission

Signal type	EtherCAT®
Frequency range	to 100 MHz
Transmission medium	Copper
Transmission characteristics (category)	CAT5 (IEC 11801)
Data transmission rate	100 Mbps
Power transmission	PoE+

Mounting

Mounting type	THR soldering / wave 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

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Surface characteristics	Completely gold-plated
Metal surface contact area (top layer)	Gold (min. 0.25 µm Au)
Metal surface contact area (middle layer)	Nickel (2 µm - 4 µm Ni)
Metal surface soldering area (top layer)	Gold (0.25 µm Au)
Metal surface soldering area (middle layer)	Nickel (2 µm - 4 µm Ni)

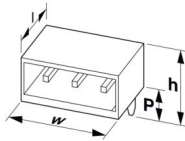
Material data - housing

Color (Housing)	black (9005)
Insulating material	LCP
Insulating material group	IIIa
CTI according to IEC 60112	175
Flammability rating according to UL 94	V0

Notes

Note on application	The item is qualified for CAT5 Ethernet applications. For this reason, it is suited for use in IoT devices.
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Dimensions

Dimensional drawing	
Pitch	2.54 mm
Width [w]	9.66 mm
Height [h]	10.29 mm
Length [l]	11.54 mm
Installed height	8.29 mm
Solder pin length [P]	2 mm

PCB design

Hole diameter	1.2 mm
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Mechanical tests

Visual inspection

Specification	IEC 60512-1-1:2002-02
Result	Test passed

Dimension check

Specification	IEC 60512-1-2:2002-02
Result	Test passed

Resistance of inscriptions

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

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Polarization and coding

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

Contact holder in insert

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

Insertion and withdrawal forces

Specification	IEC 60512-13-2:2006-02
Result	Test passed
No. of cycles	100
Insertion strength per pos. approx.	3 N
Withdraw strength per pos. approx.	3 N

Electrical tests

Thermal test | Test group C

Specification	IEC 60512-5-1:2002-02
Tested number of positions	2

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)	50 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)	1.9 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

Durability test

Specification	IEC 60512-9-1:2010-03
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Impulse withstand voltage at sea level	2.95 kV
Contact resistance R ₁	4.8 mΩ
Contact resistance R ₂	4.9 mΩ
Insertion/withdrawal cycles	100
Insulation resistance, neighboring positions	> 5 MΩ

Climatic test

Specification	ISO 6988:1985-02
Corrosive stress	0.2 dm ³ SO ₂ on 300 dm ³ /40 °C/1 cycle
Thermal stress	80 °C/168 h
Power-frequency withstand voltage	1.39 kV

Vibration test

Specification	IEC 60068-2-6:2007-12
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 Hz ... 60.1 Hz)
Acceleration	5g (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h
Test directions	X-, Y- and Z-axis

Shocks

Specification	IEC 60068-2-27:2008-02
Pulse shape	Semi-sinusoidal
Acceleration	30g
Shock duration	18 ms
Test directions	X-, Y- and Z-axis (pos. and neg.)

Railway application: Oscillation/broadband noise

Specification	DIN EN 50155 (VDE 0115-200):2022-06
	IEC 61373:2010-05
Spectrum	Long life test category 1, class B, body mounted
Frequency	f ₁ = 5 Hz to f ₂ = 150 Hz
ASD level	0.964 (m/s ²)/Hz
Acceleration	0.572 g
Test duration per axis	5 h
Test directions	X-, Y- and Z-axis
Contact interruption	< 1 μs
Result	Test passed

Railway application: Shocks

Specification	DIN EN 50155 (VDE 0115-200):2022-06
	IEC 61373:2010-05
Pulse shape	Semi-sinusoidal
Acceleration	30g
Shock duration	18 ms

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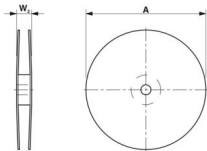
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Number of shocks per direction	3
Test directions	X-, Y- and Z-axis (pos. and neg.)
Contact interruption	< 1 μ s
Result	Test passed

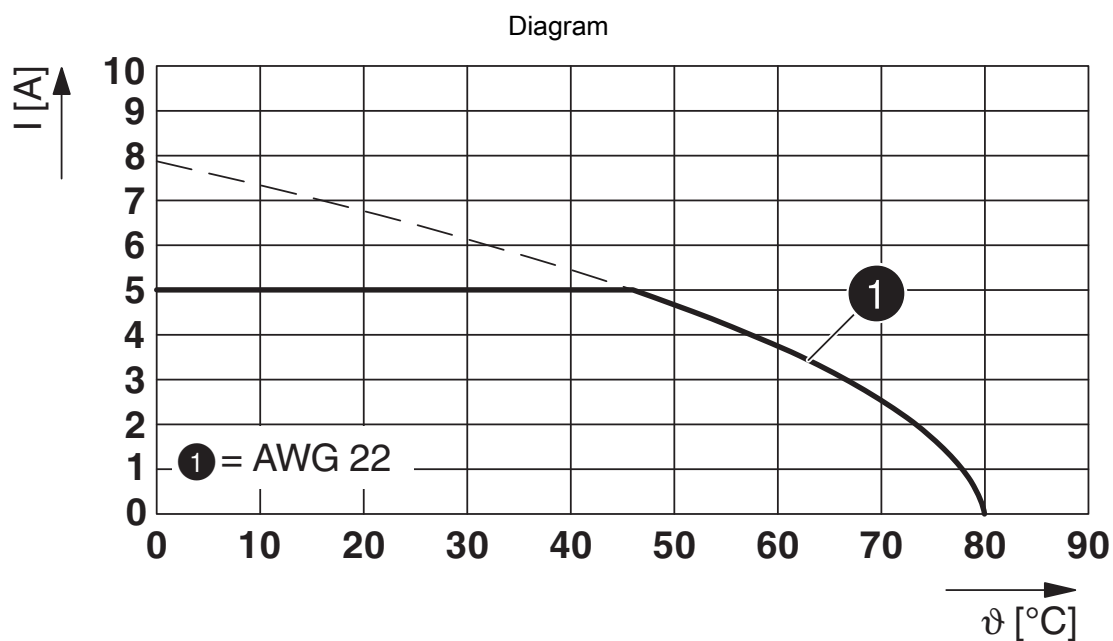
Ambient conditions

Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C
Ambient temperature (operation)	-55 °C ... 100 °C (dependent on the derating curve)

Packaging specifications

Dimensional drawing	
Type of packaging	24 mm wide tape
[W] tape width	24 mm
[W2] coil overall dimension	≤ 30.4 mm
[A] coil diameter	≤ 330 mm
Outer packaging type	Transparent-Bag

Drawings



Type: DMCC 0,5/...-ST-SH-2,54 with DMC 0,5/...-G1-SH-2,54P...THRR...

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/nl/products/1097546>

 cULus Recognized Approval ID: E60425-19920306				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
B	150 V	6 A	-	-
C	50 V	6 A	-	-

 VDE report with production monitoring Approval ID: 40042389				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine	160 V	6 A	-	-

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Classifications

ECLASS

ECLASS-13.0	27460201
ECLASS-15.0	27460201

ETIM

ETIM 10.0	EC002637
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UNSPSC

UNSPSC 21.0	39121400
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

EU REACH SVHC

REACH candidate substance (CAS No.)	No substance above 0.1 wt%
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