

MKDSO 1,5/ 3-R-3,5 KMGY - PCB terminal block



2278458

<https://www.phoenixcontact.com/us/products/2278458>

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PCB terminal block, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm², number of potentials: 3, number of rows: 1, number of positions per row: 3, product range: MKDSO 1,5/..-R, pitch: 3.5 mm, connection method: Screw connection with tension sleeve, mounting: Wave soldering, conductor/PCB connection direction: 0 °, color: light gray, Pin layout: Linear pinning, Solder pin [P]: 3.9 mm, number of solder pins per potential: 1, type of packaging: packed in cardboard. Product with pin output on right side

Your advantages

- Maintenance-free and vibration-resistant, thanks to the Reakdyn principle or spring-loaded elements
- PCB terminal block is orthogonal to the PCB
- Internationally recognized and proven screw connection

Commercial data

Item number	2278458
Packing unit	50 pc
Minimum order quantity	50 pc
Note	Made to order (non-returnable)
Sales key	AC08
Product key	ACHADA
GTIN	4046356293068
Weight per piece (including packing)	3.276 g
Weight per piece (excluding packing)	3.276 g
Customs tariff number	85369010
Country of origin	CN

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Technical data

Product properties

Product type	PCB terminal block
Product family	MKDSO 1,5/..-R
Type	PCB termination block perpendicular to the PCB
Number of positions	3
Pitch	3.5 mm
Number of connections	3
Number of rows	1
Number of potentials	3
Pin layout	Linear pinning
Solder pins per potential	1

Electrical properties

Properties

Nominal current I_N	8 A
Nominal voltage U_N	160 V
Rated voltage (III/3)	160 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)	320 V
Rated surge voltage (II/2)	2.5 kV

Connection data

Connection technology

Nominal cross section	1.5 mm ²
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Conductor connection

Connection method	Screw connection with tension sleeve
Conductor cross-section rigid	0.14 mm ² ... 1.5 mm ²
Conductor cross-section flexible	0.14 mm ² ... 1.5 mm ²
Conductor cross-section AWG	28 ... 16
Conductor cross-section, flexible, with ferrule, without plastic sleeve	0.25 mm ² ... 1.5 mm ²
Conductor cross-section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 0.5 mm ²
2 conductors with same cross section, rigid	0.08 mm ² ... 0.5 mm ²
2 conductors with same cross section, flexible	0.08 mm ² ... 0.75 mm ²
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.25 mm ² ... 0.34 mm ²
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm ² ... 0.5 mm ²
Cylindrical gauge a x b / diameter	2.4 mm x 1.5 mm / -

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Stripping length	7 mm
Tightening torque	0.22 Nm ... 0.25 Nm

Mounting

Mounting type	Wave soldering
Pin layout	Linear pinning

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	Tin-plated
Metal surface terminal point (top layer)	Tin (3 µm - 5 µm Sn)
Metal surface terminal point (middle layer)	Nickel (1 µm - 3 µm Ni)
Metal surface soldering area (top layer)	Tin (3 µm - 5 µm Sn)
Metal surface soldering area (middle layer)	Nickel (1 µm - 3 µm Ni)

Material data - housing

Color (Housing)	light gray (7035)
Insulating material	PA
Insulating material group	I
CTI according to IEC 60112	600
Flammability rating according to UL 94	V0
Glow wire flammability index GWFI according to EN 60695-2-12	850
Glow wire ignition temperature GWIT according to EN 60695-2-13	775
Temperature for the ball pressure test according to EN 60695-10-2	125 °C

Notes

Note on application	For reliable conductor connection, always adhere to a defined tightening torque. During conductor connection (mounting), the terminal blocks must be supported (held with one hand, support on the housing).
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Dimensions

Dimensional drawing	
Pitch	3.5 mm
Width [w]	11.55 mm
Height [h]	17.55 mm

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Length [L]	15.28 mm
Solder pin length [P]	3.9 mm
Pin dimensions	0.6 x 0.8 mm

PCB design

Hole diameter	1.2 mm
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Mechanical tests

Test for conductor damage and slackening

Specification	IEC 60998-2-1:2002-12
Result	Test passed

Pull-out test

Specification	IEC 60998-2-1:2002-12
Conductor cross-section/conductor type/tractive force setpoint/actual value	0.14 mm ² / solid / > 10 N
	0.14 mm ² / flexible / > 10 N
	1.5 mm ² / solid / > 40 N
	1.5 mm ² / flexible / > 40 N

Torque test

Specification	IEC 60998-2-1:1990-04
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Electrical tests

Temperature-rise test

Specification	IEC 60998-1:2002-12
Requirement temperature-rise test	Increase in temperature ≤ 45 K

Insulation resistance

Specification	IEC 60998-1:2002-12
Insulation resistance, neighboring positions	> 50 GΩ

Air clearances and creepage distances |

Specification	IEC 60664-1:2007-04
Insulating material group	I
Comparative tracking index (IEC 60112)	CTI 600
Rated insulation voltage (III/3)	160 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)	2 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)	0.8 mm
Rated insulation voltage (II/2)	320 V
Rated surge voltage (II/2)	2.5 kV

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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 60068-2-6:1995-03
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

Glow-wire test

Specification	IEC 60998-1:2002-12
Temperature	850 °C
Time of exposure	5 s

Ambient conditions

Ambient temperature (storage/transport)	-40 °C ... 55 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C
Ambient temperature (operation)	-40 °C ... 105 °C (Depending on the current carrying capacity/derating curve)

Packaging specifications

Type of packaging	packed in cardboard
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Classifications

ECLASS

ECLASS-13.0	27460101
ECLASS-15.0	27460101

ETIM

ETIM 9.0	EC002643
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UNSPSC

UNSPSC 21.0	39121400
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(c)

China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	61913bf0-1735-4f6a-97f7-0c2921e73839

EF3.1 Climate Change

CO2e kg	0.058 kg CO2e
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