MKDSP 50/ 1-17,5-FL - PCB terminal block

1856168

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PCB terminal block, nominal current: 192 A, rated voltage (III/2): 1000 V, nominal cross section: 70 mm^2, number of potentials: 1, number of rows: 1, number of positions per row: 1, product range: MKDSP 50/..-FL, pitch: 17.5 mm, connection method: Screw connection with tension sleeve, screw head form: T30 Torx®, mounting: Wave soldering, conductor/PCB connection direction: 0 °, color: green, Pin layout: Linear pinning, Solder pin [P]: 4 mm, number of solder pins per potential: 4, type of packaging: packed in cardboard

Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Allows connection of two conductors
- Quick and convenient testing using integrated test option
- Mounting flanges reduce the mechanical strain on the soldering spots
- Integrated protective guide prevents incorrect insertion of the conductor underneath the tension sleeve

Commercial data

Item number	1856168
Packing unit	10 pc
Minimum order quantity	10 pc
Sales key	AA16
Product key	AAPIAC
GTIN	4055626029016
Weight per piece (including packing)	45.42 g
Weight per piece (excluding packing)	41.8 g
Customs tariff number	85369010
Country of origin	CN

Technical data

Product properties

Type	Standard
Product line	COMBICON Terminals XXL
Product type	Printed circuit board terminal
Product family	MKDSP 50/..-FL
Number of positions	1
Pitch	17.5 mm
Number of connections	1
Number of rows	1
Number of potentials	1
Pin layout	Linear pinning
Solder pins per potential	4

Electrical properties

Nominal current I_N	192 A
Nominal voltage U_N	1000 V
Degree of pollution	3
Rated voltage (III/3)	1000 V
Rated surge voltage (III/3)	8 kV
Rated voltage (III/2)	1000 V
Rated surge voltage (III/2)	8 kV
Rated voltage (II/2)	1000 V
Rated surge voltage (II/2)	6 kV

Connection data

Connection technology

Type	Standard
Nominal cross section	70 mm²

Conductor connection

Connection method	Screw connection with tension sleeve
Conductor cross section rigid	1.5 mm² ... 70 mm²
Single-conductor/terminal point multi-stranded	1.5 mm² ... 70 mm²
Conductor cross section flexible	1.5 mm² ... 70 mm²
Conductor cross section AWG	16 ... 2/0
Conductor cross section flexible, with ferrule without plastic sleeve	1.5 mm² ... 50 mm²
Conductor cross section, flexible, with ferrule, with plastic sleeve	1.5 mm² ... 50 mm²
2 conductors with same cross section, solid	1.5 mm² ... 16 mm²
2 conductors with the same cross section, stranded	1.5 mm² ... 25 mm²
2 conductors with same cross section, flexible	1.5 mm² ... 25 mm²
2 conductors with the same cross section, flexible, with TWIN	1.5 mm² ... 16 mm²

ferrule with plastic sleeve	
Stripping length	20 mm
Tightening torque	5.5 Nm

Information on the aluminum conductor

Cross section / torque / form of conductor	Cable cross section:50 mm²; Torque:5.5 Nm; Form of cable:sector-shaped, single-strand, class 1, α = 90°(se)
Specification	DIN VDE 0276-603 (VDE 0276-603):2010-03
Note on conductor pretreatment	The following measures are required for durable and reliable contacting of the aluminum conductor: the stripped end of the aluminum conductor must be separated from the oxide layer using a blade, and immediately dipped in non-acid and non-alkali Vaseline. The pretreatment must be repeated when connecting the conductors anew.

Mounting

Mounting type	Wave soldering
Pin layout	Linear pinning
Drive form screw head	Torx® (T30)
Drive form screw head	Torx® (T30)

Material specifications

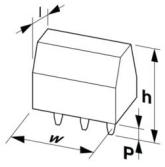
Material data - contact

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 (4 - 8 µm Sn)
Metal surface soldering area (top layer)	Tin (4 - 8 µm Sn)

Material data - housing

Color (Housing)	green (6021)
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

Dimensions

Dimensional drawing	
Pitch	17.5 mm
Width [w]	32.6 mm
Height [h]	59 mm
Length [l]	32 mm
Installed height	55 mm
Solder pin length [P]	4 mm
Pin dimensions	1.4 x 1.4 mm

PCB design

Hole diameter	2.4 mm

Mechanical tests

Test for conductor damage and slackening

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	1.5 mm² / solid / > 40 N
	1.5 mm² / flexible / > 40 N
	70 mm² / stranded / > 285 N
	70 mm² / flexible / > 285 N
	50 mm² / flexible with ferrule / > 236 N
	1.5 mm² / flexible with ferrule / > 40 N

Electrical tests

Temperature-rise test

Specification	IEC 60947-7-4:2013-08
Requirement temperature-rise test	The sum of ambient temperature and temperature rise of the PCB terminal block shall not exceed the upper limiting temperature.

Short-time withstand current

Specification	IEC 60947-7-4:2013-08

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	I
Comparative tracking index (IEC 60112)	CTI 600
Rated insulation voltage (III/3)	1000 V
Rated surge voltage (III/3)	8 kV
minimum clearance value - non-homogenous field (III/3)	8 mm
minimum creepage distance (III/3)	12.5 mm
Rated insulation voltage (III/2)	1000 V
Rated surge voltage (III/2)	8 kV
minimum clearance value - non-homogenous field (III/2)	8 mm
minimum creepage distance (III/2)	8 mm
Rated insulation voltage (II/2)	1000 V
Rated surge voltage (II/2)	6 kV
minimum clearance value - non-homogenous field (II/2)	5.5 mm
minimum creepage distance (II/2)	5.5 mm

Environmental and real-life conditions

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)
Sweep speed	5g (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h

Glow-wire test

Specification	IEC 60695-2-10:2000-10
Temperature	850 °C
Time of exposure	5 s

Aging

Specification	IEC 60947-7-4:2013-08

Ambient conditions

Ambient temperature (operation)	-40 °C ... 100 °C (Depending on the current carrying capacity/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

Classifications

ECLASS

ECLASS-11.0	27460101
ECLASS-12.0	27460101
ECLASS-13.0	27460101

ETIM

ETIM 9.0	EC002643

UNSPSC

UNSPSC 21.0	39121400

Environmental product compliance

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

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