MKDS 5N HV/ 3-ZB-6,35 - PCB terminal block

1777558

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Printed circuit board terminal, nominal current: 41 A, rated voltage (III/2): 1000 V, nominal cross section: 4 mm^2, number of potentials: 3, number of rows: 1, number of positions per row: 3, product range: MKDS 5 N HV, pitch: 6.35 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, mounting: Wave soldering, conductor/PCB connection direction: 0 °, color: green, Pin layout: Zigzag pinning W, Solder pin [P]: 5 mm, number of solder pins per potential: 1, 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
- Unrestricted 600-V-UL approval thanks to compact zig-zag pinning

Commercial data

Item number	1777558
Packing unit	50 pc
Minimum order quantity	50 pc
Sales key	AANFDF
Product key	AANFDF
Catalog page	Page 445 (C-1-2013)
GTIN	4046356522335
Weight per piece (including packing)	10.008 g
Weight per piece (excluding packing)	9.576 g
Customs tariff number	85369010
Country of origin	PL

Technical data

Product properties

Product type	Printed circuit board terminal
Product family	MKDS 5 N HV
Product line	COMBICON Terminals L
Type	PC termination block
Number of positions	3
Pitch	6.35 mm
Number of connections	3
Number of rows	1
Number of potentials	3
Pin layout	Zigzag pinning W
Solder pins per potential	1

Electrical properties

Properties

Nominal current I_N	41 A
Nominal voltage U_N	1000 V
Rated voltage (III/3)	800 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)	8 kV

Connection data

Connection technology

Type	PC termination block
Nominal cross section	4 mm²

Conductor connection

Connection method	Screw connection with tension sleeve
Conductor cross section rigid	0.2 mm² ... 6 mm²
Conductor cross section flexible	0.2 mm² ... 4 mm²
Conductor cross section AWG	24 ... 10
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm² ... 4 mm²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm² ... 4 mm²
2 conductors with same cross section, solid	0.2 mm² ... 1.5 mm²
2 conductors with same cross section, flexible	0.2 mm² ... 1.5 mm²
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.25 mm² ... 0.75 mm²

2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm² ... 2.5 mm²
Stripping length	8 mm
Drive form screw head	Slotted (L)
Tightening torque	0.5 Nm ... 0.6 Nm

Mounting

Mounting type	Wave soldering
Pin layout	Zigzag pinning W

Material specifications

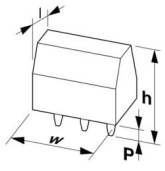
Material data - contact

Note	WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Surface characteristics	hot-dip tin-plated
Metal surface terminal point (top layer)	Tin (5 - 7 µm Sn)
Metal surface soldering area (top layer)	Tin (5 - 7 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	6.35 mm
Width [w]	19.05 mm
Height [h]	32 mm
Length [l]	15.85 mm
Installed height	27 mm
Solder pin length [P]	5 mm
Pin dimensions	0.9 x 0.9 mm

PCB design

Pin spacing	9 mm
Hole diameter	1.3 mm

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	0.2 mm² / solid / > 10 N
	0.2 mm² / flexible / > 10 N
	6 mm² / solid / > 80 N
	4 mm² / flexible / > 60 N

Torque test

Specification	IEC 60998-2-1:2002-12

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	10^{12} Ω

Air clearances and creepage distances |

Specification	IEC 60947-7-4:2013-08
Insulating material group	I
Comparative tracking index (IEC 60112)	CTI 600
Rated insulation voltage (III/3)	800 V
Rated surge voltage (III/3)	8 kV
minimum clearance value - non-homogenous field (III/3)	8 mm
minimum creepage distance (III/3)	10 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)	8 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 60068-2-6:1995-03
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

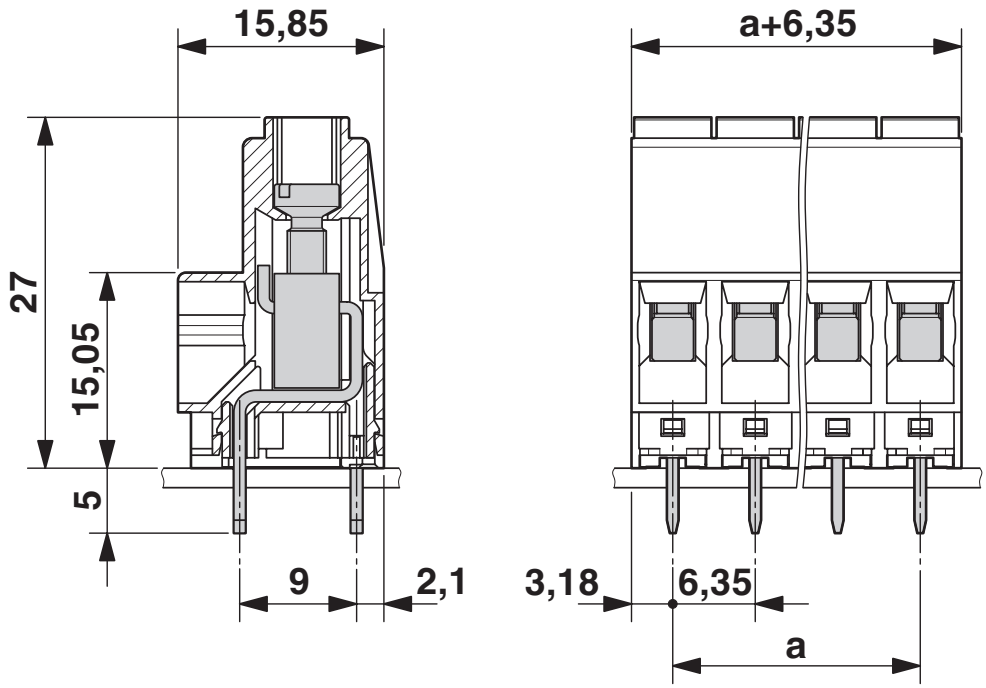
Ambient temperature (operation)	-40 °C ... 100 °C (Depending on the current carrying capacity/derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

Packaging specifications

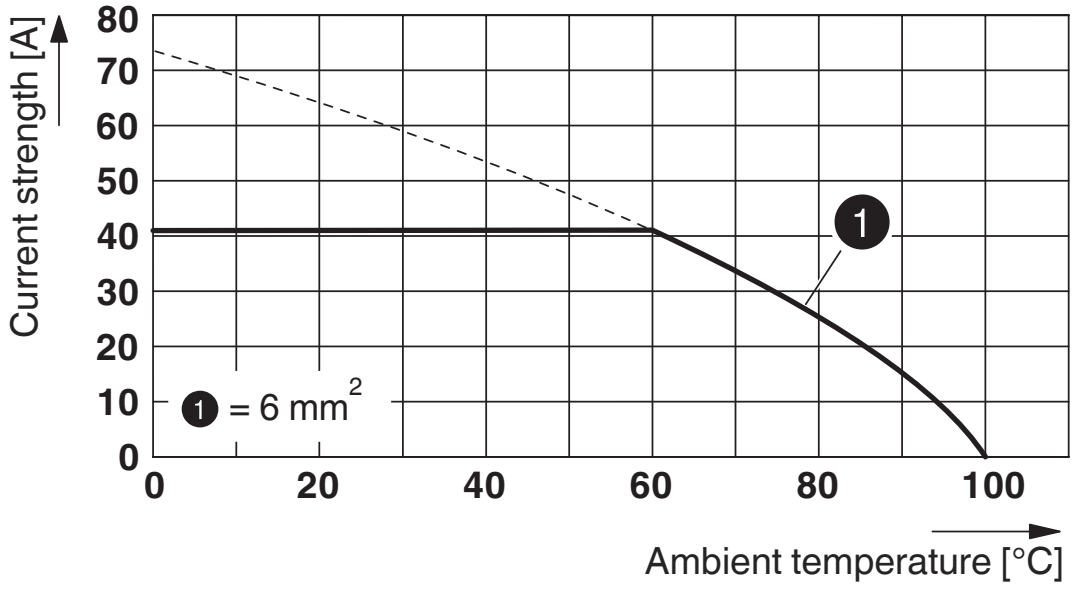
Type of packaging	packed in cardboard

Drawings

Dimensional drawing

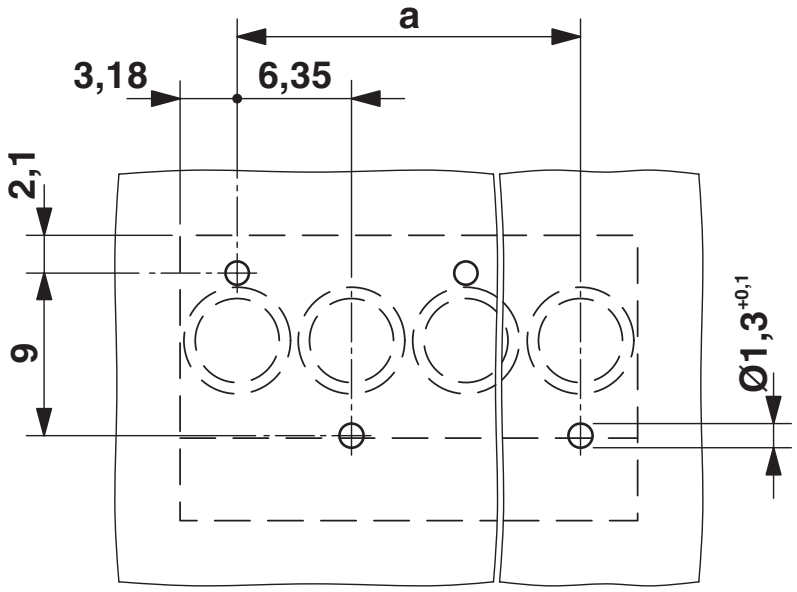


Diagram



Type: MKDS 5N HV/...-ZB-6,35
Tested in accordance with DIN EN 60512-5-2:2003-01
Reduction factor = 1
Number of positions: 5

Drilling plan/solder pad geometry



Approvals

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cULus Recognized
Approval ID: E60425-19770427

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
Use group B				
	600 V	30 A	30 - 10	-
Use group C				
	600 V	30 A	30 - 10	-

VDE approval of drawings
Approval ID: 40055394

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	1000 V	32 A	-	0.2 - 4

Classifications

ECLASS

ECLASS-13.0	27460101

ETIM

ETIM 9.0	EC002643

UNSPSC

UNSPSC 21.0	39121400

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions

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%

EF3.0 Climate Change

CO2e kg	0.061 kg CO2e

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