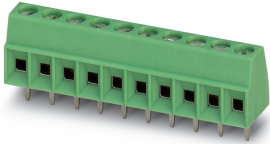


PCB terminal block - MKDS 1/ 7-3,81 - 1727065

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PCB terminal block, nominal current: 13.5 A, rated voltage (III/2): 200 V, nominal cross section: 1.5 mm², number of potentials: 7, Number of rows: 1, Number of positions per row: 7, product range: MKDS 1, pitch: 3.81 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: Linear pinning, Solder pin [P]: 3.5 mm, Number of solder pins per potential: 1, type of packaging: packed in cardboard




The figure shows a 10-position version of the product

Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Allows connection of two conductors
- Extremely small design for the respective conductor cross section



Key Commercial Data

| | |
|--------------|---|
| Packing unit | 100 pc |
| GTIN |  4 017918 025533 |
| GTIN | 4017918025533 |

Technical data

Item properties

| | |
|---------------------------|--------------------|
| Brief article description | PCB terminal block |
| Range of articles | MKDS 1 |
| Pitch | 3.81 mm |
| Number of positions | 7 |
| Drive form screw head | Slotted (L) |
| Screw thread | M2 |
| Mounting type | Wave soldering |
| Pin layout | Linear pinning |
| Number of rows | 1 |
| Number of connections | 7 |
| Number of potentials | 7 |

PCB terminal block - MKDS 1/ 7-3,81 - 1727065

Technical data

Electrical parameters

| | |
|-----------------------------|-----------------------------------|
| Nominal current | 13.5 A |
| Nom. voltage | 200 V |
| Contact resistance | Test passed IEC 60512-2-2:2003-05 |
| Rated voltage (III/3) | 160 V |
| Rated voltage (III/2) | 200 V |
| Rated voltage (II/2) | 400 V |
| Rated surge voltage (III/3) | 2.5 kV |
| Rated surge voltage (III/2) | 2.5 kV |
| Rated surge voltage (II/2) | 2.5 kV |

Connection capacity

| | |
|---|---|
| Connection method | Screw connection with tension sleeve |
| pluggable | no |
| Conductor cross section solid | 0.14 mm ² ... 1.5 mm ² |
| Conductor cross section flexible | 0.14 mm ² ... 1.5 mm ² |
| Conductor cross section AWG / kcmil | 26 ... 16 |
| Conductor cross section flexible, with ferrule without plastic sleeve | 0.25 mm ² ... 0.5 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, solid | 0.14 mm ² ... 0.5 mm ² |
| 2 conductors with same cross section, flexible | 0.14 mm ² ... 0.34 mm ² |
| Stripping length | 5 mm |
| Torque | 0.22 Nm ... 0.25 Nm |

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 (5 - 7 µm Sn) |
| Metal surface terminal point (middle layer) | Nickel (2 - 3 µm Ni) |
| Metal surface soldering area (top layer) | Tin (5 - 7 µm Sn) |
| Metal surface soldering area (middle layer) | Nickel (2 - 3 µm Ni) |

Material data - housing

| | |
|---|--------------|
| Housing color | 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 |

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Technical data

Dimensions for the product

| | |
|-----------------------------|--|
| Caption | Schematische Abbildung - weitere Details siehe Produktfamilienzeichnung im Download Center |
| Length [l] | 7.3 mm |
| Width [w] | 26.66 mm |
| Height [h] | 12 mm |
| Pitch | 3.81 mm |
| Height (without solder pin) | 8.5 mm |
| Solder pin [P] | 3.5 mm |
| Pin dimensions | 0.5 x 0.9 mm |

Dimensions for PCB design

| | |
|---------------|--------|
| Hole diameter | 1.1 mm |
|---------------|--------|

Packaging information

| | |
|----------------------------|---------------------|
| Type of packaging | packed in cardboard |
| Pieces per package | 100 |
| Denomination packing units | Pcs. |

General product information

| | |
|--------------|--|
| Type of note | Note on application |
| Note | For safe conductor connection, always adhere to a defined tightening torque. Particularly in the case of PCB terminal blocks with two or three positions, the individual solder pin for each contact point cannot compensate for this. That is why the terminal blocks must be supported during conductor connection (held with one hand, support on the housing). |

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) | -40 °C ... 105 °C (Depending on the current carrying capacity/derating curve) |

Termination and connection method

| | |
|--|---------------------|
| Test for conductor damage and slackening | IEC 60999-1:1999-11 |
| | Test passed |

Pull-out test

| | |
|--|--|
| Pull-out test | IEC 60999-1:1999-11 |
| Conductor cross section / conductor type / tensile force | 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 |

Mechanical tests according to standard

| | |
|--------------------|---------------|
| Test specification | IEC 60947-7-4 |
|--------------------|---------------|

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Technical data

Electrical tests

| | |
|-----------------------------|---------------------|
| Rated current | 13.5 A |
| Conductor cross section | 1.5 mm ² |
| Rated voltage (III/2) | 200 V |
| Rated surge voltage (III/2) | 2.5 kV |

Air clearances and creepage distances

| | |
|---|--|
| Clearances and creepage distances | IEC 60947-1:2007-06 + A1:2010-12 + A2:2014-09 |
| Specification | IEC 60947-1:2007-06 + A1:2010-12 + A2:2014-09 |
| Minimum clearance - inhomogeneous field (III/3) | 1.5 mm |
| Minimum clearance - inhomogeneous field (III/2) | 1.5 mm |
| Minimum clearance - inhomogeneous field (II/2) | 1.5 mm |
| Minimum creepage distance value (III/3) | 2 mm |
| Minimum creepage distance value (III/2) | 1.5 mm |
| Minimum creepage distance value (II/2) | 2 mm |
| Note on connection cross section | With connected conductor 1.5 mm ² (stranded). |

Temperature-rise test

| | |
|-----------------------------------|--|
| Specification | IEC 60947-7-4:2019-01 |
| Requirement temperature-rise test | The sum of ambient temperature and temperature rise of the PCB terminal block shall not exceed the upper limiting temperature. |

Current carrying capacity / derating curves

| | |
|---------|-----------------------|
| Caption | Type: MKDS 1/...-3,81 |
|---------|-----------------------|

Vibration test

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

Insulation resistance

| | |
|--|-----------------------|
| Specification | IEC 60512-3-1:2002-02 |
| Result | Test passed |
| Insulation resistance, neighboring positions | > 5 MΩ |

Glow-wire test

| | |
|------------------|------------------------|
| Specification | IEC 60695-2-10:2013-04 |
| Temperature | 850 °C |
| Time of exposure | 5 s |

Alternating climate test

| | |
|---------------|------------------|
| Result | Test passed |
| Specification | ISO 6988:1985-02 |

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Technical data

Standards and Regulations

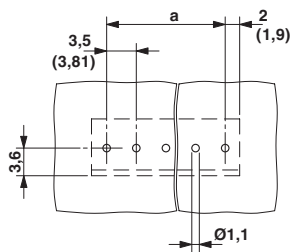
| | |
|----------------------------------|--------|
| Connection in acc. with standard | EN-VDE |
|----------------------------------|--------|

Environmental Product Compliance

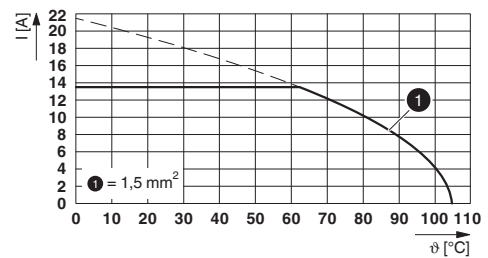
| | |
|------------|---|
| China RoHS | Environmentally Friendly Use Period = 50 years |
| | For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration" |

Drawings

Drilling diagram

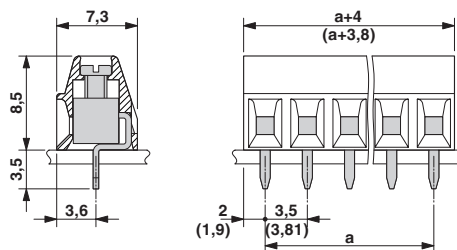


Diagram



Type: MKDS 1/...-3,81

Dimensional drawing



Classifications

eCl@ss

| | |
|---------------|----------|
| eCl@ss 10.0.1 | 27440401 |
| eCl@ss 11.0 | 27460101 |
| eCl@ss 4.0 | 27141100 |
| eCl@ss 4.1 | 27141100 |
| eCl@ss 5.0 | 27141100 |
| eCl@ss 5.1 | 27261100 |
| eCl@ss 6.0 | 27261100 |
| eCl@ss 7.0 | 27440401 |
| eCl@ss 9.0 | 27440401 |

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Classifications

ETIM

| | |
|----------|----------|
| ETIM 3.0 | EC001121 |
| ETIM 4.0 | EC002643 |
| ETIM 6.0 | EC002643 |
| ETIM 7.0 | EC002643 |

UNSPSC

| | |
|---------------|----------|
| UNSPSC 6.01 | 30211801 |
| UNSPSC 7.0901 | 39121432 |
| UNSPSC 11 | 39121432 |
| UNSPSC 12.01 | 39121432 |
| UNSPSC 13.2 | 39121432 |
| UNSPSC 18.0 | 39121432 |
| UNSPSC 19.0 | 39121432 |
| UNSPSC 20.0 | 39121432 |
| UNSPSC 21.0 | 39121432 |

Approvals


Approvals


Approvals

IECEE CB Scheme / SEV / EAC / cULus Recognized

Ex Approvals

Approval details

| | | | |
|----------------------------|---|---|----------|
| IECEE CB Scheme |  | http://www.iecee.org/ | CH-10787 |
| Nominal voltage UN | 160 V | | |
| Nominal current IN | 12 A | | |
| mm ² /AWG/kcmil | 1.5 | | |

| | | | |
|--------------------|---|---|---------|
| SEV |  | https://www.eurofins.ch/de/ | IK-4497 |
| Nominal voltage UN | 160 V | | |

PCB terminal block - MKDS 1/ 7-3,81 - 1727065

Approvals

| | |
|--------------------------------|------|
| Nominal current I _N | 12 A |
| mm ² /AWG/kcmil | 1.5 |

| | | |
|-----|--|---------|
| EAC | | B.01687 |
|-----|--|---------|

| | | | |
|--------------------------------|-------|---|-----------------|
| cULus Recognized | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | E60425-19770427 |
| | B | D | |
| Nominal voltage U _N | 300 V | 300 V | |
| Nominal current I _N | 10 A | 10 A | |
| mm ² /AWG/kcmil | 30-16 | 30-16 | |

Accessories

Accessories

Labeled terminal marker

Marker card - SK 3,81/2,8:FORTL.ZAHLEN - 0804109



Marker card, Card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... (99)100, mounting type: adhesive, for terminal block width: 3.81 mm, lettering field size: 3.81 x 2.8 mm

Marker pen

Marker pen - B-STIFT - 1051993



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

Screwdriver tools

PCB terminal block - MKDS 1/ 7-3,81 - 1727065

Accessories

Screwdriver - SZS 0,4X2,5 VDE - 1205037



Screwdriver, slot-headed, VDE insulated, size: 0.4 x 2.5 x 80 mm, 2-component grip, with non-slip grip

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