

# MKDSO 2,5 HV/ 3L-7,5 KMGY - PCB terminal block



2890946

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PCB terminal block, nominal current: 24 A, rated voltage (III/2): 630 V, nominal cross section: 2.5 mm<sup>2</sup>, number of rows: 1, number of positions per row: 3, product range: MKDSO 2,5 HV/...-L, pitch: 7.5 mm, connection method: Screw connection with tension sleeve, mounting: Wave soldering, conductor/PCB connection direction: 0 °, color: light grey, Pin layout: Linear pinning, Solder pin [P]: 3.5 mm, number of solder pins per potential: 1. Product with pin output on left 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                          | 2890946             |
| Packing unit                         | 50 pc               |
| Minimum order quantity               | 50 pc               |
| Sales key                            | AC08                |
| Product key                          | ACHADA              |
| Catalog page                         | Page 125 (C-1-2013) |
| GTIN                                 | 4046356101585       |
| Weight per piece (including packing) | 8.212 g             |
| Weight per piece (excluding packing) | 7.22 g              |
| Customs tariff number                | 85369010            |
| Country of origin                    | DE                  |

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## Technical data

### Product properties

|                           |                                |
|---------------------------|--------------------------------|
| Product type              | Printed circuit board terminal |
| Product family            | MKDSO 2,5 HV/..-L              |
| Number of positions       | 3                              |
| Pitch                     | 7.5 mm                         |
| Number of rows            | 1                              |
| Pin layout                | Linear pinning                 |
| Solder pins per potential | 1                              |

### Electrical properties

|                             |        |
|-----------------------------|--------|
| Nominal current $I_N$       | 24 A   |
| Nominal voltage $U_N$       | 600 V  |
| Degree of pollution         | 3      |
| Rated voltage (III/3)       | 630 V  |
| Rated surge voltage (III/3) | 6 kV   |
| Rated voltage (III/2)       | 630 V  |
| Rated surge voltage (III/2) | 6 kV   |
| Rated voltage (II/2)        | 1000 V |
| Rated surge voltage (II/2)  | 6 kV   |

### Connection data

#### Connection technology

|                       |                     |
|-----------------------|---------------------|
| Nominal cross section | 2.5 mm <sup>2</sup> |
|-----------------------|---------------------|

#### Conductor connection

|   |   |
|---|---|
| Connection method   | Screw connection with tension sleeve          |
| Conductor cross section rigid   | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>   |
| Conductor cross section flexible  | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>   |
| Conductor cross section AWG   | 24 ... 14                                     |
| Conductor cross section flexible, with ferrule without plastic sleeve                     | 0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>  |
| Conductor cross section, flexible, with ferrule, with plastic sleeve                      | 0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>  |
| 2 conductors with same cross section, solid   | 0.2 mm <sup>2</sup> ... 0.75 mm <sup>2</sup>  |
| 2 conductors with same cross section, flexible  | 0.25 mm <sup>2</sup> ... 0.75 mm <sup>2</sup> |
| 2 conductors with same cross section, flexible, with ferrule without plastic sleeve       | 0.25 mm <sup>2</sup> ... 0.75 mm <sup>2</sup> |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>  |
| Stripping length  | 8 mm  |
| Tightening torque   | 0.5 Nm ... 0.6 Nm                             |

### Mounting

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|               |                |
|---------------|----------------|
| 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 (Sn)   |

### Material data - housing

|   |                   |
|---|-------------------|
| Color (Housing)   | light grey (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            |

## Dimensions

|                       |  |
|-----------------------|--|
| Dimensional drawing   |  |
| Pitch                 | 7.5 mm   |
| Width [w]             | 20.8 mm  |
| Height [h]            | 23.25 mm   |
| Length [l]            | 27.95 mm   |
| Solder pin length [P] | 3.5 mm   |
| Pin dimensions        | 0.8 x 1 mm   |

### PCB design

|               |        |
|---------------|--------|
| Hole diameter | 1.4 mm |
|---------------|--------|

## Mechanical tests

### Test for conductor damage and slackening

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

### Pull-out test

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|   |   |
|---|---|
| Specification   | IEC 60998-2-1:2002-12                   |
| Conductor cross section/conductor type/tractive force setpoint/actual value | 0.2 mm <sup>2</sup> / solid / > 10 N    |
|   | 0.2 mm <sup>2</sup> / flexible / > 10 N |
|   | 2.5 mm <sup>2</sup> / solid / > 50 N    |
|   | 2.5 mm <sup>2</sup> / flexible / > 50 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 <sup>9</sup> Ω   |

### Air clearances and creepage distances |

|  |   |
|--|---|
| Specification  | IEC 60664-1:1992-10 + A1:2000-02 + A2:2002-05 |
| Insulating material group                              | I   |
| Comparative tracking index (IEC 60112)                 | CTI 600                                       |
| Rated insulation voltage (III/3)                       | 630 V   |
| Rated surge voltage (III/3)                            | 6 kV  |
| minimum clearance value - non-homogenous field (III/3) | 5.5 mm  |
| minimum creepage distance (III/3)                      | 8 mm  |
| Rated insulation voltage (III/2)                       | 630 V   |
| Rated surge voltage (III/2)                            | 6 kV  |
| minimum clearance value - non-homogenous field (III/2) | 5.5 mm  |
| minimum creepage distance (III/2)                      | 5.5 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 60068-2-6:1995-03       |
| 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

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

## Ambient conditions

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

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## Classifications

### ECLASS

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

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC002643 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 39121400 |
|-------------|----------|

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## Environmental product compliance

|            |  |
|------------|--|
| China RoHS | Environmentally Friendly Use Period = 50 years<br>For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads" |
|------------|--|

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