

# DMC 0,5/ 5-G1-2,54 SMD R44 - PCB header



1845056

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PCB headers, nominal cross section: 0.5 mm<sup>2</sup>, color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Au, contact connection type: Pin, number of potentials: 10, number of rows: 2, number of positions: 5, number of connections: 10, product range: DMC 0,5/..-G1-SMD, pitch: 2.54 mm, mounting: SMD soldering, pin layout: Linear pad geometry, number of solder pins per potential: 1, plug-in system: COMBICON DFMC 0,5, Pin connector pattern alignment: Standard, locking: without, mounting method: without, type of packaging: 44 mm wide tape

## Your advantages

- Gold-plated contacts ensure transfer quality remains stable over the long term
- Designed for integration into the SMT process
- Conductor connection on several levels enables higher contact density

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1845056                        |
| Packing unit                         | 300 pc                         |
| Minimum order quantity               | 300 pc                         |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | AA                             |
| Product key                          | AAAUDA                         |
| GTIN                                 | 4046356964579                  |
| Weight per piece (including packing) | 2.882 g                        |
| Weight per piece (excluding packing) | 2.8 g                          |
| Customs tariff number                | 85366930                       |
| Country of origin                    | PL                             |

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## Technical data

### Product properties

|                           |                        |
|---------------------------|------------------------|
| Product type              | PCB headers            |
| Product family            | DMC 0,5/...-G1-SMD     |
| Product line              | COMBICON Connectors XS |
| Number of positions       | 5                      |
| Pitch                     | 2.54 mm                |
| Number of connections     | 10                     |
| Number of rows            | 2                      |
| Number of potentials      | 10                     |
| Mounting type             | without                |
| Pin layout                | Linear pad geometry    |
| Solder pins per potential | 1                      |

### Electrical properties

#### Properties

|                             |                |
|-----------------------------|----------------|
| Nominal current $I_N$       | 6 A            |
| Nominal voltage $U_N$       | 160 V          |
| Contact resistance          | 2.8 m $\Omega$ |
| Rated voltage (III/3)       | 32 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)        | 160 V          |
| Rated surge voltage (II/2)  | 2.5 kV         |

### Mounting

|               |                     |
|---------------|---------------------|
| Mounting type | SMD soldering       |
| Pin layout    | Linear pad geometry |

#### Processing notes

|                                  |                  |
|----------------------------------|------------------|
| Process                          | Reflow soldering |
| Moisture Sensitive Level         | MSL 1            |
| Classification temperature $T_c$ | 260 °C           |
| Solder cycles in the reflow      | 3                |

### 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 | Completely gold-plated   |

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|   |                      |
|---|----------------------|
| Metal surface contact area (top layer)      | Gold (0.25 Au)       |
| Metal surface contact area (middle layer)   | Nickel (2 - 4 µm Ni) |
| Metal surface soldering area (top layer)    | Gold (0.25 Au)       |
| Metal surface soldering area (middle layer) | Nickel (2 - 4 µm Ni) |

## Material data - housing

|  |              |
|--|--------------|
| Color (Housing)                        | black (9005) |
| Insulating material                    | LCP          |
| Insulating material group              | IIIa         |
| CTI according to IEC 60112             | 175          |
| Flammability rating according to UL 94 | V0           |

## Dimensions

|                     |                |
|---------------------|----------------|
| Dimensional drawing |                |
| Pitch               | 2.54 mm        |
| Width [w]           | 17.28 mm       |
| Height [h]          | 7.39 mm        |
| Length [l]          | 12.26 mm       |
| Pin dimensions      | 0.64 x 0.64 mm |

## PCB design

|              |                              |
|--------------|------------------------------|
| Pad geometry | 1.2 x 2.1 mm<br>1.2 x 3.8 mm |
| Pin spacing  | 2.54 mm                      |

## Mechanical tests

### Visual inspection

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60512-1-1:2002-02 |
| Result        | Test passed           |

### Dimension check

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60512-1-2:2002-02 |
| Result        | Test passed           |

### Resistance of inscriptions

|               |                        |
|---------------|------------------------|
| Specification | IEC 60068-2-70:1995-12 |
| Result        | Test passed            |

### Polarization and coding

|               |                        |
|---------------|------------------------|
| Specification | IEC 60512-13-5:2006-02 |
| Result        | Test passed            |

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## Contact holder in insert

|   |                        |
|---|------------------------|
| Specification                               | IEC 60512-15-1:2008-05 |
| Contact holder in insert Requirements >20 N | Test passed            |

## Insertion and withdrawal forces

|                                     |             |
|-------------------------------------|-------------|
| Result                              | Test passed |
| No. of cycles                       | 100         |
| Insertion strength per pos. approx. | 2 N         |
| Withdraw strength per pos. approx.  | 1 N         |

## Electrical tests

### Thermal test | Test group C

|                            |                       |
|----------------------------|-----------------------|
| Specification              | IEC 60512-5-1:2002-02 |
| Tested number of positions | 16                    |

### 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                              | IIIa                |
| Comparative tracking index (IEC 60112)                 | CTI 175             |
| Rated insulation voltage (III/3)                       | 32 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)                      | 1.3 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)                      | 1.6 mm              |
| Rated insulation voltage (II/2)                        | 160 V               |
| Rated surge voltage (II/2)                             | 2.5 kV              |
| 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 60068-2-6:2007-12       |
| Frequency     | 10 - 500 - 10 Hz            |
| Sweep speed   | 1 octave/min                |
| Amplitude     | 0.35 mm (10 Hz ... 60.1 Hz) |
| Acceleration  | 5g (60.1 Hz ... 500 Hz)     |

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|                        |                   |
|------------------------|-------------------|
| Test duration per axis | 2 h               |
| Test directions        | X-, Y- and Z-axis |

## Durability test

|  |                       |
|--|-----------------------|
| Specification                                | IEC 60512-9-1:2010-03 |
| Impulse withstand voltage at sea level       | 2.95 kV               |
| Contact resistance R <sub>1</sub>            | 2.8 mΩ                |
| Contact resistance R <sub>2</sub>            | 2.9 mΩ                |
| Contact resistance R <sub>2</sub> 2nd level  | 2.9 mΩ                |
| Insertion/withdrawal cycles                  | 100                   |
| Insulation resistance, neighboring positions | > 5 MΩ                |

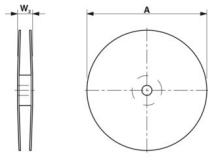
## Climatic test

|                                   |  |
|-----------------------------------|--|
| Specification                     | DIN 50018:2013-05  |
| Corrosive stress                  | 1.0 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/3 cycles |
| Thermal stress                    | 105 °C/168 h   |
| Power-frequency withstand voltage | 1.39 kV  |

## Ambient conditions

|   |   |
|---|---|
| Ambient temperature (operation)         | -40 °C ... 105 °C (dependent on the 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

|                             |  |
|-----------------------------|--|
| Dimensional drawing         |  |
| Type of packaging           | 44 mm wide tape  |
| [W] tape width              | 44 mm  |
| [W2] coil overall dimension | ≤ 50.4 mm  |
| [A] coil diameter           | ≤ 330 mm   |
| Outer packaging type        | Transparent-Bag  |

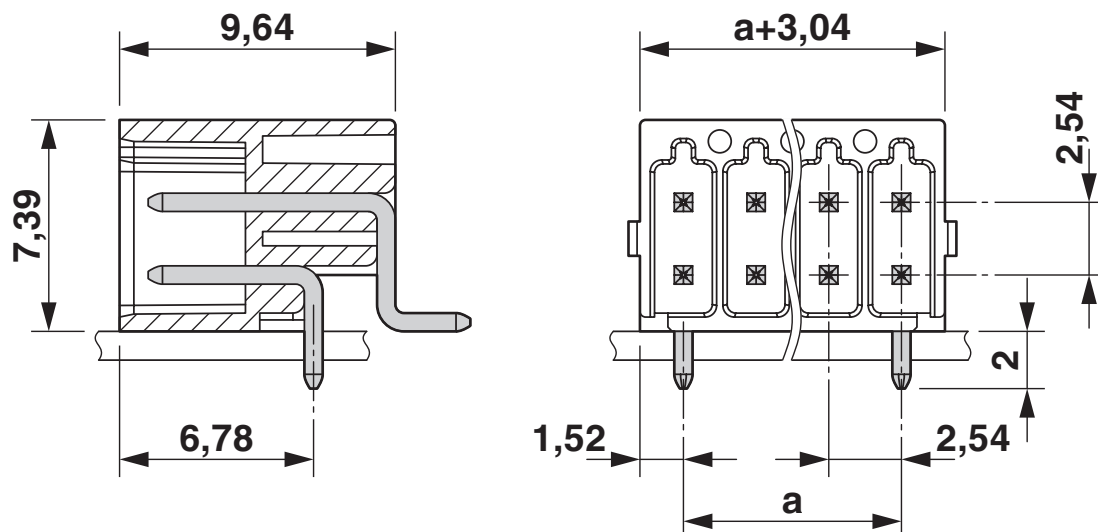
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## Drawings

Dimensional drawing



Diagram



Type: DFMC 0,5/...-ST-2,54 with DMC 0,5/...-G1-2,54 SMD R...

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/ae/products/1845056>

|  <b>cULus Recognized</b><br>Approval ID: E60425-19920306 |                       |                       |                   |                      |
|---|-----------------------|-----------------------|-------------------|----------------------|
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
| B   | 150 V                 | 6 A                   | -                 | -                    |
| C   | 50 V                  | 6 A                   | -                 | -                    |

|  <b>VDE report with production monitoring</b><br>Approval ID: 40042389 |                       |                       |                   |                      |
|---|-----------------------|-----------------------|-------------------|----------------------|
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
| keine   | 160 V                 | 6 A                   | -                 | -                    |

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27460201 |
| ECLASS-15.0 | 27460201 |

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC002637 |
|----------|----------|

### UNSPSC

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

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## 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% |
|-------------------------------------|----------------------------|

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