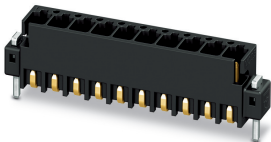


# Printed-circuit board connector - MCV 0,5/14-G-2,54 SMDR56C2 - 1706078

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The figure shows the 10-position version


PCB header, nominal cross section: 0.5 mm<sup>2</sup>, color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Gold, type of contact: Male connector, number of potentials: 14, Number of rows: 1, Number of positions per row: 14, number of connections: 14, product range: MCV 0,5/...-G-SMD, pitch: 2.54 mm, mounting: SMD soldering, pin layout: Linear pad geometry, solder pin [P]: 2 mm, plug-in system: MICRO COMBICON - FMC 0,5, Pin connector pattern alignment: Standard, Locking: without, mounting: without, type of packaging: 56 mm wide tape, Fixed coding of the last position, can be combined with the FMC 0,5/...-ST-2,54 C2 connector

## Your advantages

- Designed for integration into the SMT soldering process
- Additional solder anchors reduce the mechanical strain on the soldering spots
- Gold-plated contacts ensure transfer quality remains stable over the long term
- Vertical connection enables multi-row arrangement on the PCB
- Supplied in tape-on-reel packing according to IEC 60286-3 for automated mounting



## Key Commercial Data

|                        |   |
|------------------------|---|
| Packing unit           | 315 pc  |
| Minimum order quantity | 315 pc  |
| GTIN                   | <br>4 046356 842570 |
| GTIN                   | 4046356842570   |

## Technical data

### Item properties

|                           |                          |
|---------------------------|--------------------------|
| Brief article description | Feed-through header      |
| Connector system          | MICRO COMBICON - FMC 0,5 |
| Type of contact           | Male connector           |
| Range of articles         | MCV 0,5/...-G-SMD        |
| Pitch                     | 2.54 mm                  |
| Number of positions       | 14                       |
| Mounting type             | SMD soldering            |

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## Technical data

### Item properties

|                                 |                     |
|---------------------------------|---------------------|
| Pin layout                      | Linear pad geometry |
| Locking                         | without             |
| Number of levels                | 1                   |
| Number of connections           | 14                  |
| Number of potentials            | 14                  |
| Pin connector pattern alignment | Standard            |

### Electrical parameters

|                             |        |
|-----------------------------|--------|
| Nominal current             | 6 A    |
| Nom. voltage                | 160 V  |
| Rated voltage (III/3)       | 32 V   |
| Rated voltage (III/2)       | 160 V  |
| Rated voltage (II/2)        | 160 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 |

### 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  |
| 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

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

### Flange specifications

|                 |         |
|-----------------|---------|
| Type of locking | without |
| Mounting flange | without |

### Dimensions for the product

|              |  |
|--------------|--|
| Caption      | Schematische Abbildung - weitere Details siehe Produktfamilienzeichnung im Download Center |
| Length [ l ] | 4.85 mm  |
| Width [ w ]  | 40.14 mm   |

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## Technical data

### Dimensions for the product

|                             |                |
|-----------------------------|----------------|
| Height [ h ]                | 7.1 mm         |
| Pitch                       | 2.54 mm        |
| Height (without solder pin) | 7.1 mm         |
| Solder pin [P]              | 2 mm           |
| Pin dimensions              | 0.64 x 0.64 mm |

### Dimensions for PCB design

|               |        |
|---------------|--------|
| Hole diameter | 1.2 mm |
|---------------|--------|

### Packaging information

|                             |                 |
|-----------------------------|-----------------|
| Type of packaging           | 56 mm wide tape |
| Pieces per package          | 315             |
| Denomination packing units  | Pcs.            |
| [W] tape width              | 56 mm           |
| [A] coil diameter           | 330 mm          |
| [W2] coil overall dimension | 62.4 mm         |
| Outer packaging type        | Transparent-Bag |

### Processing notes

|   |  |
|---|--|
| Process                                   | Reflow soldering                         |
| Specification                             | Following IPC/JEDEC J-STD-020D.1:2008-03 |
|   | Following IEC 60068-2-58:2005-02         |
| Moisture Sensitive Level                  | MSL 1                                    |
| Classification temperature T <sub>c</sub> | 260 °C                                   |
| Solder cycles in the reflow               | 3  |

### Ambient conditions

|   |   |
|---|---|
| Ambient temperature (storage/transport) | -40 °C ... 70 °C                                    |
| Ambient temperature (assembly)          | -5 °C ... 100 °C                                    |
| Ambient temperature (operation)         | -40 °C ... 100 °C (dependent on the derating curve) |

### Air clearances and creepage distances

|   |                     |
|---|---------------------|
| Clearances and creepage distances               | IEC 60664-1:2007-04 |
| Specification                                   | IEC 60664-1:2007-04 |
| 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)         | 1.5 mm              |
| Minimum creepage distance value (III/2)         | 1.6 mm              |
| Minimum creepage distance value (II/2)          | 1.6 mm              |

### Mechanical tests (A)

|                    |           |
|--------------------|-----------|
| Test specification | IEC 61984 |
|--------------------|-----------|

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## Technical data

### Mechanical tests (A)

|  |             |
|--|-------------|
| Insertion strength per pos. approx.          | 2 N         |
| Withdraw strength per pos. approx.           | 2 N         |
| Polarization when inserted requirement >20 N | Test passed |
| Contact holder in insert requirements >20 N  | Test passed |

### Durability tests (B)

|  |                       |
|--|-----------------------|
| Specification                          | IEC 60512-9-1:2010-03 |
| Contact resistance R <sub>1</sub>      | 2.6 mΩ                |
| Insertion/withdrawal cycles            | 100                   |
| Contact resistance R <sub>2</sub>      | 2.6 mΩ                |
| Impulse withstand voltage at sea level | 2.95 kV               |

### Thermal tests (C)

|   |                       |
|---|-----------------------|
| Specification                                   | IEC 60512-5-1:2002-02 |
| Number of positions                             | 16                    |
| Upper limiting temperature requirements <100 °C | Test passed           |

### Climatic tests (D)

|  |  |
|--|--|
| Specification                          | DIN 50018:2013-05  |
| Cold stress                            | -40 °C/2 h   |
| Thermal stress                         | 100 °C/168 h   |
| Corrosive stress                       | 1.0 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/3 cycles |
| Impulse withstand voltage at sea level | 2.95 kV  |
| Power-frequency withstand voltage      | 1.39 kV  |

### Environmental and durability tests (E)

|                                       |  |
|---------------------------------------|--|
| Specification                         | IEC 61984:2008-10                          |
| Result, degree of protection, IP code | Back of hand safety with IP10 access probe |

### Vibration test

|                        |                        |
|------------------------|------------------------|
| Specification          | IEC 60068-2-6:2007-12  |
| Frequency              | 10 - 500 - 10 Hz       |
| Sweep speed            | 1 octave/min           |
| Amplitude              | 0.35 mm (10 - 60.1 Hz) |
| Acceleration           | 5g (60.1 - 500 Hz)     |
| Test duration per axis | 2 h                    |

### Standards and Regulations

|  |        |
|--|--------|
| Connection in acc. with standard       | EN-VDE |
| Flammability rating according to UL 94 | V0     |

### Environmental Product Compliance

|            |   |
|------------|---|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
|------------|---|

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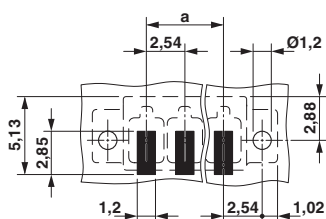
## Technical data

### Environmental Product Compliance

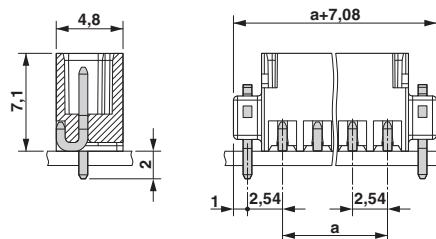
|  |  |
|--|--|
|  | No hazardous substances above threshold values |
|--|--|

## Drawings

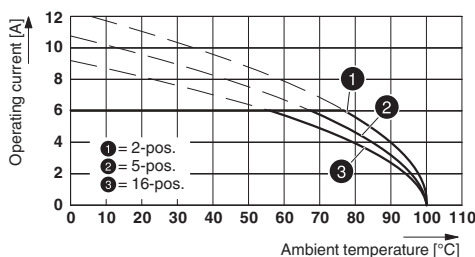
Drilling diagram



Dimensional drawing



Diagram



Type FMC 0,5/...-ST-2,54 with MCV 0,5/...-G-2,54 SMD R..

## Classifications

### eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27440402 |
| eCl@ss 11.0   | 27460201 |
| eCl@ss 4.0    | 27260700 |
| eCl@ss 4.1    | 27260700 |
| eCl@ss 5.0    | 27260700 |
| eCl@ss 5.1    | 27260700 |
| eCl@ss 6.0    | 27260700 |
| eCl@ss 7.0    | 27440402 |
| eCl@ss 9.0    | 27440402 |

### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC001121 |
| ETIM 4.0 | EC002637 |
| ETIM 6.0 | EC002637 |

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## Classifications

### ETIM

|          |          |
|----------|----------|
| ETIM 7.0 | EC002637 |
|----------|----------|

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30211810 |
| UNSPSC 7.0901 | 39121409 |
| UNSPSC 11     | 39121409 |
| UNSPSC 12.01  | 39121409 |
| UNSPSC 13.2   | 39121409 |
| UNSPSC 18.0   | 39121409 |
| UNSPSC 19.0   | 39121409 |
| UNSPSC 20.0   | 39121409 |
| UNSPSC 21.0   | 39121409 |

## Approvals


### Approvals


#### Approvals

VDE Gutachten mit Fertigungsüberwachung / IECEE CB Scheme / EAC / cULus Recognized

#### Ex Approvals

### Approval details

|   |   |   |          |
|---|---|---|----------|
| VDE Gutachten mit Fertigungsüberwachung |  | <a href="http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx">http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx</a> | 40042258 |
| Nominal voltage UN                      | 160 V   |   |          |
| Nominal current IN                      | 6 A   |   |          |

|                    |   |   |           |
|--------------------|---|---|-----------|
| IECEE CB Scheme    |  | <a href="http://www.iecee.org/">http://www.iecee.org/</a> | DE1-63595 |
| Nominal voltage UN | 160 V   |   |           |
| Nominal current IN | 6 A   |   |           |

# Printed-circuit board connector - MCV 0,5/14-G-2,54 SMDR56C2 - 1706078

## Approvals

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

|                    |       |   |                 |
|--------------------|-------|---|-----------------|
| cULus Recognized   |       | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | E60425-19920306 |
|                    | B     | C   |                 |
| Nominal voltage UN | 150 V | 50 V  |                 |
| Nominal current IN | 6 A   | 6 A   |                 |

## Accessories

### Accessories

#### Labeled terminal marker

Marker card - SK 2,54/2,8:FORTL.ZAHLEN - 0804853



Marker card, Card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 99, mounting type: adhesive, for terminal block width: 2.54 mm, lettering field size: 2.54 x 2.8 mm

## Additional products

### Printed-circuit board connector - FMC 0,5/14-ST-2,54 C2 - 1706229



PCB connector, nominal cross section: 0.5 mm<sup>2</sup>, color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Gold, type of contact: Female connector, number of potentials: 14, Number of rows: 1, Number of positions per row: 14, number of connections: 14, product range: FMC 0,5/...-ST, pitch: 2.54 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, plug-in system: MICRO COMBICON - FMC 0,5, Locking: without, mounting: without, type of packaging: packed in cardboard, Fixed coding of last position; can be combined with MC(V) 0,5/...-G-2,54...C2 headers