# Printed-circuit board connector - MCVR 1,5/ 7-STF-3,5 - 1863356

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The figure shows a 10-position version of the product

PCB connector, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm², number of positions: 7, pitch: 3.5 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

## Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Allows connection of two conductors
- Screwable flange for superior mechanical stability

## Key Commercial Data

| | |
|---|---|
| Packing unit | 50 pc |
| GTIN | 4 017918 121167 |
| GTIN | 4017918121167 |

## Technical data

### Item properties

| | |
|---|---|
| Brief article description | Printed-circuit board connector |
| Plug-in system | MINI COMBICON |
| Type of contact | Female connector |
| Range of articles | MCVR 1,5/..-STF |
| Pitch | 3.5 mm |
| Number of positions | 7 |
| Connection method | Screw connection with tension sleeve |
| Drive form screw head | Slotted (L) |
| Screw thread | M2 |
| Locking | Screw flange |
| Number of levels | 1 |

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## Technical data

### Item properties

| | |
|---|---|
| Number of connections | 7 |
| Number of potentials | 7 |

### Electrical parameters

| | |
|---|---|
| Nominal current | 8 A |
| Nom. voltage | 160 V |
| Rated voltage | 160 V |
| Rated voltage (III/2) | 160 V |
| Rated voltage (II/2) | 320 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 | Yes |
| Conductor cross section solid | 0.14 mm² ... 1.5 mm² |
| Conductor cross section flexible | 0.14 mm² ... 1.5 mm² |
| Conductor cross section AWG / kcmil | 28 ... 16 |
| Conductor cross section flexible, with ferrule without plastic sleeve | 0.25 mm² ... 1.5 mm² |
| Conductor cross section, flexible, with ferrule, with plastic sleeve | 0.25 mm² ... 0.5 mm² |
| 2 conductors with same cross section, solid | 0.08 mm² ... 0.5 mm² |
| 2 conductors with same cross section, flexible | 0.08 mm² ... 0.75 mm² |
| 2 conductors with same cross section, flexible, with ferrule without plastic sleeve | 0.25 mm² ... 0.34 mm² |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm² ... 0.5 mm² |
| Cylindrical gauge a x b / diameter | 2.4 mm x 1.5 mm / 1.5 mm |
| Stripping length | 7 mm |
| Torque | 0.22 Nm ... 0.25 Nm |

### Flange specifications

| | |
|---|---|
| Type of locking | Screw locking |
| Mounting flange | Screw flange |
| Torque | 0.3 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 | hot-dip tin-plated |
| Metal surface terminal point (top layer) | Tin (4 - 8 µm Sn) |
| Metal surface contact area (top layer) | Tin (4 - 8 µm Sn) |

### Material data - housing

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## Technical data

### 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 |

### Dimensions for the product

| | |
|---|---|
| Length [ l ] | 10.4 mm |
| Width [ w ] | 34.9 mm |
| Height [ h ] | 19.1 mm |
| Pitch | 3.5 mm |
| Height (without solder pin) | 19.1 mm |

### Packaging information

| | |
|---|---|
| Type of packaging | packed in cardboard |
| Pieces per package | 50 |
| Denomination packing units | Pcs. |

### 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) |

### 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 |
| | Test passed |
| Conductor cross section / conductor type / tensile force | 0.14 mm² / solid / > 10 N |
| | 0.14 mm² / flexible / > 10 N |
| | 1.5 mm² / solid / > 40 N |
| | 1.5 mm² / flexible / > 40 N |

### Mechanical tests according to standard

| | |
|---|---|
| Test specification | IEC 61984 |
| Visual inspection | IEC 60512-1-1:2002-02 |
| Dimension check | IEC 60512-1-2:2002-02 |
| Resistance of inscriptions | IEC 60068-2-70:1995-12 |
| Insertion and withdrawal force | IEC 60512-13-2:2006-02 |
| No. of cycles | 25 |
| Insertion strength per pos. approx. | 7 N |
| Withdraw strength per pos. approx. | 8 N |

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## Technical data

### Mechanical tests according to standard

| | |
|---|---|
| Polarization and coding | IEC 60512-13-5:2006-02 |
| Contact holder in insert | IEC 60512-15-1:2008-05 |
| Test force per pos. | 23 N |

### 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) | 2 mm |
| Minimum creepage distance value (III/2) | 1.5 mm |
| Minimum creepage distance value (II/2) | 1.6 mm |

### Current carrying capacity / derating curves

| | |
|---|---|
| Caption | Type: MCV(W/R) 2,5/...-STF-3,5 with MC 1,5/...-GF-3,5 P...THR |
| Specification | IEC 61984:2008-10 |
| Reduction factor | 0.8 |
| Note | Representation based on IEC 60512-5-2:2002-02 |
| | For number of positions, see diagram |

### Mechanical tests (A)

| | |
|---|---|
| Test specification | IEC 61984 |
| Insertion strength per pos. approx. | 7 N |
| Withdraw strength per pos. approx. | 8 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 $R_1$ | 3.5 mΩ |
| Insertion/withdrawal cycles | 25 |
| Contact resistance $R_2$ | 3.6 mΩ |
| Impulse withstand voltage at sea level | 2.95 kV |
| Power-frequency withstand voltage | 1.39 kV |
| Insulation resistance, neighboring positions | > 0.2 TΩ |

### Thermal tests (C)

| | |
|---|---|
| Specification | IEC 60512-5-1:2002-02 |
| Number of positions | 12 |
| Conductor cross section | 1.5 mm² |
| Test current | 8 A |
| Upper limiting temperature requirements <100 °C | Test passed |

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## Technical data

### Climatic tests (D)

| | |
|---|---|
| Specification | ISO 6988:1985-02 |
| Cold stress | -40 °C/2 h |
| Thermal stress | 100 °C/168 h |
| Corrosive stress | 0.2 $dm^3$ $SO_2$ on 300 $dm^3$/40 °C/1 cycle |
| Impulse withstand voltage at sea level | 2.95 kV |
| Power-frequency withstand voltage | 1.39 kV |

### Environmental and durability tests (E)

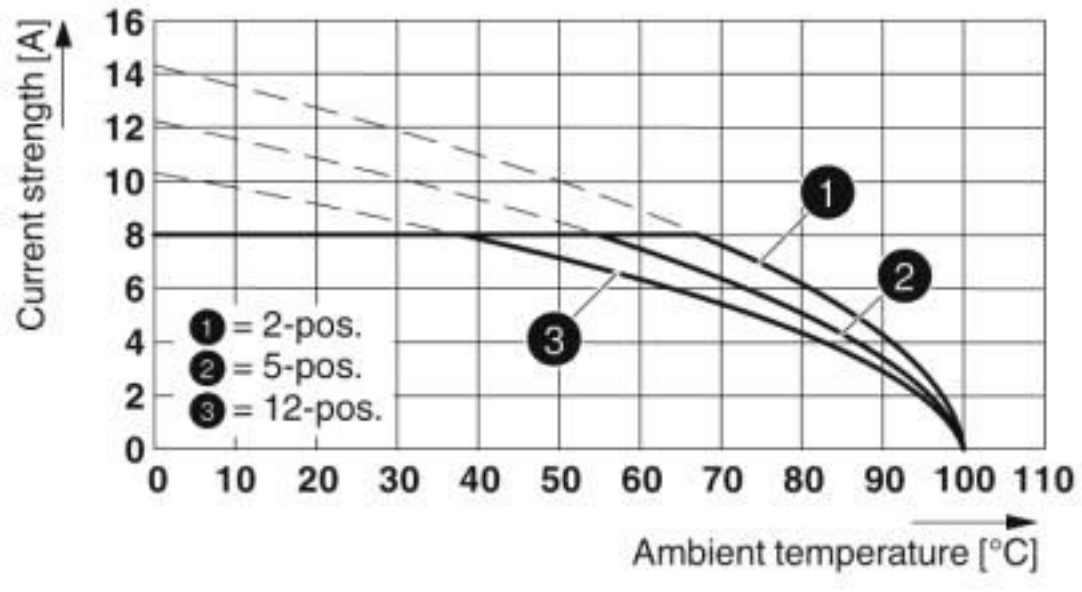
| | |
|---|---|
| Specification | IEC 61984:2008-10 |
| Result, degree of protection, IP code | Finger safety with IP20 test finger |

### Environmental Product Compliance

| | |
|---|---|
| REACh SVHC | Lead 7439-92-1 |
| China RoHS | Environmentally Friendly Use Period = 50 years |
| | For details about hazardous substances go to tab “Downloads”, Category “Manufacturer's declaration” |

## Drawings

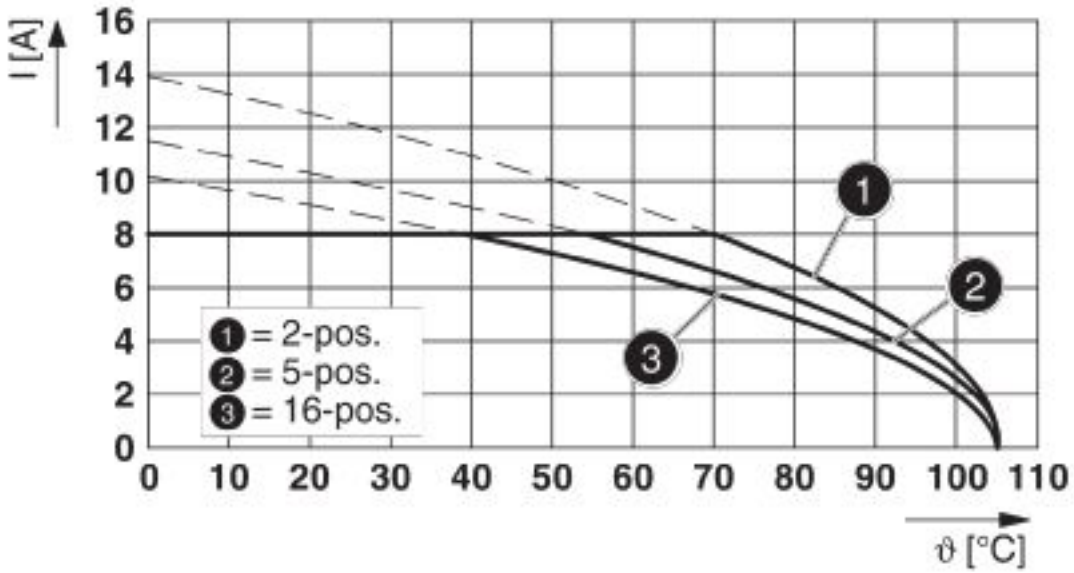
Diagram




Type: MCV(W/R) 2,5/...-STF-3,5 with MC 1,5/...-GF-3,5 P...THR

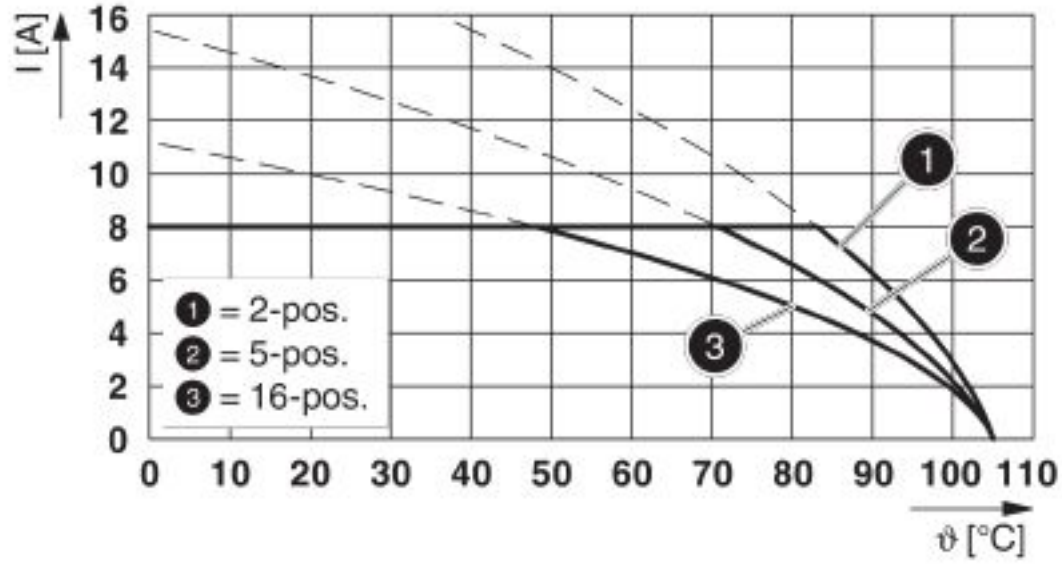
# Printed-circuit board connector - MCVR 1,5/ 7-STF-3,5 - 1863356

Diagram




Type: MCVR 1,5/...-STF-3,5 with MC 1,5/...-GF-3,5

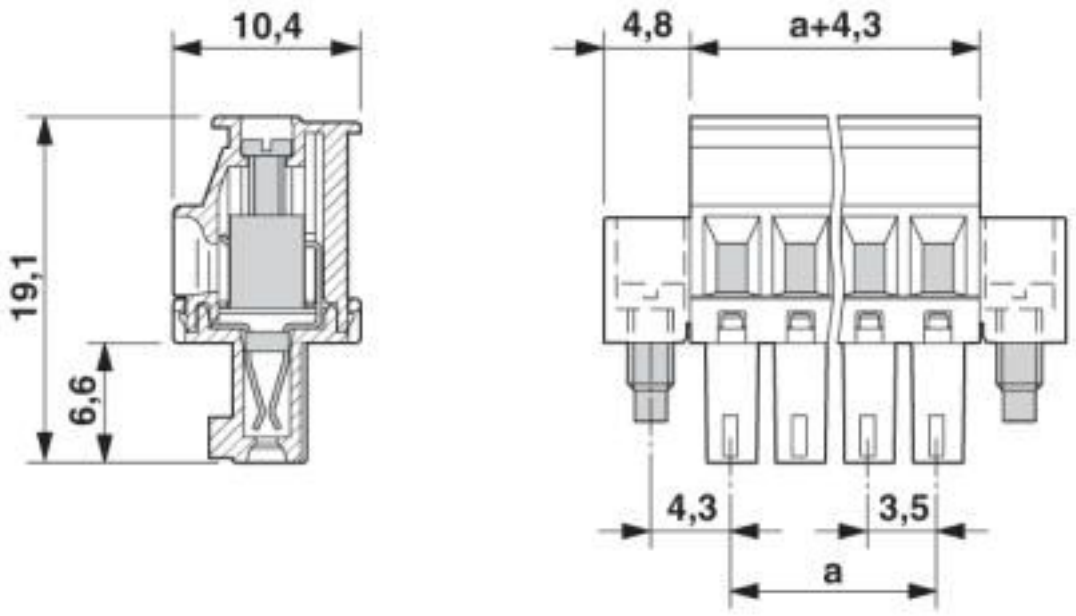
Diagram




Type: MCVR 1,5/...-STF-3,5 with MCV 1,5/...-GF-3,5

# Printed-circuit board connector - MCVR 1,5/ 7-STF-3,5 - 1863356

Dimensional drawing




## Classifications

### eCl@ss

| | |
|---|---|
| eCl@ss 10.0.1 | 27440309 |
| 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 | 27440309 |
| eCl@ss 8.0 | 27440309 |
| eCl@ss 9.0 | 27440309 |

### ETIM

| | |
|---|---|
| ETIM 3.0 | EC001121 |
| ETIM 4.0 | EC002638 |
| ETIM 5.0 | EC002638 |
| ETIM 6.0 | EC002638 |
| ETIM 7.0 | EC002638 |

### UNSPSC

| | |
|---|---|
| UNSPSC 6.01 | 30211810 |
| UNSPSC 7.0901 | 39121409 |
| UNSPSC 11 | 39121409 |
| UNSPSC 12.01 | 39121409 |
| UNSPSC 13.2 | 39121409 |

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## Classifications

### UNSPSC

| | |
|---|---|
| UNSPSC 18.0 | 39121409 |
| UNSPSC 19.0 | 39121409 |
| UNSPSC 20.0 | 39121409 |
| UNSPSC 21.0 | 39121409 |

## Approvals

### Approvals

Approvals

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

Ex Approvals

### Approval details

| | | | |
|---|---|---|---|
| IECEE CB Scheme | CB scheme | http://www.iecee.org/ | DE1-60987-B1B2 |

| | |
|---|---|
| Nominal voltage UN | 160 V |
| Nominal current IN | 8 A |
| mm²/AWG/kcmil | 0.2-1.5 |

| | | | |
|---|---|---|---|
| VDE Gutachten mit Fertigungsüberwachung | VDE | http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx | 40011723 |

| | |
|---|---|
| Nominal voltage UN | 160 V |
| Nominal current IN | 8 A |
| mm²/AWG/kcmil | 0.2-1.5 |

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

# Printed-circuit board connector - MCVR 1,5/ 7-STF-3,5 - 1863356

## Approvals

| | | | |
|---|---|---|---|
| cULus Recognized | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | E60425-20110128 |

| | B | D |
|---|---|---|
| Nominal voltage UN | 300 V | 300 V |
| Nominal current IN | 8 A | 8 A |
| mm²/AWG/kcmil | 30-14 | 30-14 |

## Accessories

### Accessories

### Labeled terminal marker

Marker card - SK 3,5/2,8:FORTL.ZAHLEN - 0804073

Marker card, Card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 99, mounting type: adhesive, for terminal block width: 3.5 mm, lettering field size: 3.5 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

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

### Terminal marking

# Printed-circuit board connector - MCVR 1,5/ 7-STF-3,5 - 1863356

## Accessories

Marker card - SK U/2,8 WH:UNBEDRUCKT - 0803883

Marker card, Sheet, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, Office printing systems, mounting type: adhesive, for terminal block width: 210 mm, lettering field size: 186 x 2.8 mm, Number of individual labels: 3600

## Additional products

Printed-circuit board connector - MCV 1,5/ 7-GF-3,5 P20 THRR56 - 1780765

PCB headers, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm², number of positions: 7, pitch: 3.5 mm, color: black, contact surface: Tin, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2 mm, User information and design recommendations for through hole reflow technology can be found under: Downloads

Printed-circuit board connector - MC 1,5/ 7-GF-3,5 P26 THR - 1789261

PCB headers, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm², number of positions: 7, pitch: 3.5 mm, color: black, contact surface: Tin, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2.6 mm

Printed-circuit board connector - MC 1,5/ 7-GF-3,5 P26 THRR56 - 1789274

PCB headers, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm², number of positions: 7, pitch: 3.5 mm, color: black, contact surface: Tin, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2.6 mm

Printed-circuit board connector - MC 1,5/ 7-GF-3,5 P14 THR - 1789708

PCB headers, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm², number of positions: 7, pitch: 3.5 mm, color: black, contact surface: Tin, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 1.4 mm

# Printed-circuit board connector - MCVR 1,5/ 7-STF-3,5 - 1863356

## Accessories

Feed-through header - MCV 1,5/ 7-GF-3,5 - 1843279

PCB headers, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm², number of positions: 7, pitch: 3.5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.4 mm

Feed-through header - MC 1,5/ 7-GF-3,5 - 1843842

PCB headers, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm², number of positions: 7, pitch: 3.5 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.4 mm

Feed-through header - EMC 1,5/ 7-GF-3,5 - 1897296

PCB headers, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm², number of positions: 7, pitch: 3.5 mm, color: green, contact surface: Tin, mounting: Press-in technology, pin layout: Linear pinning, solder pin [P]: 3.5 mm

Feed-through header - EMCV 1,5/ 7-GF-3,5 - 1911211

PCB headers, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm², number of positions: 7, pitch: 3.5 mm, color: green, contact surface: Tin, mounting: Press-in technology, pin layout: Linear pinning, solder pin [P]: 3.8 mm

Feed-through header - MC 1,5/ 7-GF-3,5 THT - 1937363

PCB headers, number of positions: 7, pitch: 3.5 mm, color: black, contact surface: Tin, pin layout: Linear pinning, solder pin [P]: 3.4 mm, User information and design recommendations for through hole reflow technology can be found under: Downloads

# Printed-circuit board connector - MCVR 1,5/ 7-STF-3,5 - 1863356

## Accessories

Feed-through header - MCV 1,5/ 7-GF-3,5 THT - 1937457

PCB headers, number of positions: 7, pitch: 3.5 mm, color: black, contact surface: Tin, pin layout: Linear pinning, User information and design recommendations for through hole reflow technology can be found under: Downloads

Feed-through header - MC 1,5/ 7-GF-3,5 THT-R56 - 1996919

PCB headers, number of positions: 7, pitch: 3.5 mm, color: black, contact surface: Tin, pin layout: Linear pinning, solder pin [P]: 3.4 mm, User information and design recommendations for through hole reflow technology can be found under: Downloads



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