

MSTB 2,5 HC/ 3-STF-5,08 - PCB connector



1912197

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PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 16 A (see derating curve), rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MSTB 2,5 HC/..-STF, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 0 °, locking clip: - without locking clip, plug-in system: COMBICON MSTB 2,5 HC, locking: Screw locking, mounting: Screw flange, type of packaging: packed in cardboard

Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Allows connection of two conductors
- Integrated double steel spring provides additional safety in the event of temperature and power fluctuations
- Screwable flange for superior mechanical stability

Commercial Data

| | |
|--------------------------------------|---------------------|
| Item number | 1912197 |
| Packing unit | 50 pc |
| Minimum order quantity | 50 pc |
| Sales Key | AAC |
| Product Key | AACAGB |
| Catalog Page | Page 491 (C-1-2013) |
| GTIN | 4017918191344 |
| Weight per Piece (including packing) | 6.29 g |
| Weight per Piece (excluding packing) | 6.29 g |
| Customs tariff number | 85366990 |
| Country of origin | DE |

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Technical Data

Product properties

| | |
|-----------------------|-----------------------|
| Type | Standard |
| Product line | COMBICON Connectors M |
| Product type | PCB plug |
| Product family | MSTB 2,5 HC/...STF |
| Number of positions | 3 |
| Pitch | 5.08 mm |
| Number of connections | 3 |
| Number of rows | 1 |
| Mounting flange | Screw flange |
| Number of potentials | 3 |

Electrical properties

| | |
|-----------------------------|---------------------------|
| Nominal current I_N | 16 A (see derating curve) |
| Nominal voltage U_N | 320 V |
| Degree of pollution | 3 |
| Contact resistance | 0.6 m Ω |
| Rated voltage (III/3) | 250 V |
| Rated surge voltage (III/3) | 4 kV |
| Rated voltage (III/2) | 320 V |
| Rated surge voltage (III/2) | 4 kV |
| Rated voltage (II/2) | 630 V |
| Rated surge voltage (II/2) | 4 kV |

Connection data

Connection technology

| | |
|-----------------------|----------------------|
| Type | Standard |
| Connector system | COMBICON MSTB 2,5 HC |
| Nominal cross section | 2.5 mm ² |
| Type of contact | Socket |

Interlock

| | |
|-------------------|---------------|
| Locking type | Screw locking |
| Mounting flange | Screw flange |
| Tightening torque | 0.3 Nm |

Conductor connection

| | |
|------------------------------------|---|
| Connection method | Screw connection with tension sleeve |
| Conductor/PCB connection direction | 0 ° |
| Conductor cross section rigid | 0.2 mm ² ... 2.5 mm ² |
| Conductor cross section flexible | 0.2 mm ² ... 2.5 mm ² |
| Conductor cross section AWG | 24 ... 12 |

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| | |
|---|--|
| Conductor cross section flexible, with ferrule without plastic sleeve | 0.25 mm ² ... 2.5 mm ² |
| Conductor cross section, flexible, with ferrule, with plastic sleeve | 0.25 mm ² ... 2.5 mm ² |
| 2 conductors with same cross section, solid | 0.2 mm ² ... 1 mm ² |
| 2 conductors with same cross section, flexible | 0.2 mm ² ... 1.5 mm ² |
| 2 conductors with same cross section, flexible, with ferrule without plastic sleeve | 0.25 mm ² ... 1 mm ² |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm ² ... 1.5 mm ² |
| Cylindrical gauge a x b / diameter | 2.8 mm x 2.0 mm / 2.4 mm |
| Stripping length | 7 mm |
| Tightening torque | 0.5 Nm ... 0.6 Nm |

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 | 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) |

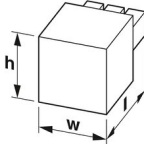
Material data - housing

| | |
|---|--------------|
| Color (Housing) | 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 |

Material data – actuating element

| | |
|-----------|-----|
| Color () | () |
|-----------|-----|

Dimensions

| | |
|---------------------|--|
| Dimensional drawing |  |
| Pitch | 5.08 mm |
| Width [w] | 24.64 mm |
| Height [h] | 15 mm |

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| | |
|------------|---------|
| Length [l] | 18.2 mm |
|------------|---------|

Mounting

| | |
|-----------------------|-------------|
| Drive form screw head | Slotted (L) |
| Drive form screw head | Slotted (L) |

Flange

| | |
|-------------------|--------|
| Tightening torque | 0.3 Nm |
|-------------------|--------|

Notes

| | |
|--------------------|--|
| Notes on operation | In accordance with IEC 61984, COMBICON connectors have no switching power (COC). During designated use, they must not be plugged in or disconnected when carrying voltage or under load. |
|--------------------|--|

Mechanical tests

Test for conductor damage and slackening

| | |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
| Result | Test passed |

Pull-out test

| | |
|---|---|
| Specification | IEC 60999-1:1999-11 |
| Conductor cross section/conductor type/tractive force setpoint/actual value | 0.2 mm ² / solid / > 10 N |
| | 0.2 mm ² / flexible / > 10 N |
| | 2.5 mm ² / solid / > 50 N |
| | 2.5 mm ² / flexible / > 50 N |

Insertion and withdrawal forces

| | |
|-------------------------------------|-------------|
| Result | Test passed |
| No. of cycles | 50 |
| Insertion strength per pos. approx. | 5 N |
| Withdraw strength per pos. approx. | 5 N |

Torque test

| | |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
|---------------|---------------------|

Contact holder in insert

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

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

Dimension check

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

Environmental and real-life conditions

Vibration test

| | |
|------------------------|-----------------------------|
| Specification | IEC 60068-2-6:2007-12 |
| 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 |

Durability test

| | |
|--|---------------------|
| Specification | IEC 60512-5:1992-08 |
| Impulse withstand voltage at sea level | 4.8 kV |
| Contact resistance R ₁ | 0.6 mΩ |
| Contact resistance R ₂ | 0.8 mΩ |
| Insertion/withdrawal cycles | 50 |

Climatic test

| | |
|-----------------------------------|---|
| Specification | ISO 6988:1985-02 |
| Corrosive stress | 0.2 dm ³ SO ₂ on 300 dm ³ /40 °C/1 cycle |
| Thermal stress | 100 °C/168 h |
| Power-frequency withstand voltage | 2.21 kV AC |

Shocks

| | |
|-----------------|-----------------------------------|
| Specification | IEC 61373:2010-05 |
| Pulse shape | Semi-sinusoidal |
| Acceleration | 30g |
| Shock duration | 18 ms |
| Test directions | X-, Y- and Z-axis (pos. and neg.) |

Ambient conditions

| | |
|---|---|
| Ambient temperature (operation) | -40 °C ... 100 °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 |

Electrical tests

Thermal test | Test group C

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| | |
|----------------------------|-----------------------|
| Specification | IEC 60512-5-1:2002-02 |
| Tested number of positions | 12 |

Insulation resistance

| | |
|--|-----------------------|
| Specification | IEC 60512-3-1:2002-02 |
| Insulation resistance, neighboring positions | $10^{12} \Omega$ |

Air clearances and creepage distances |

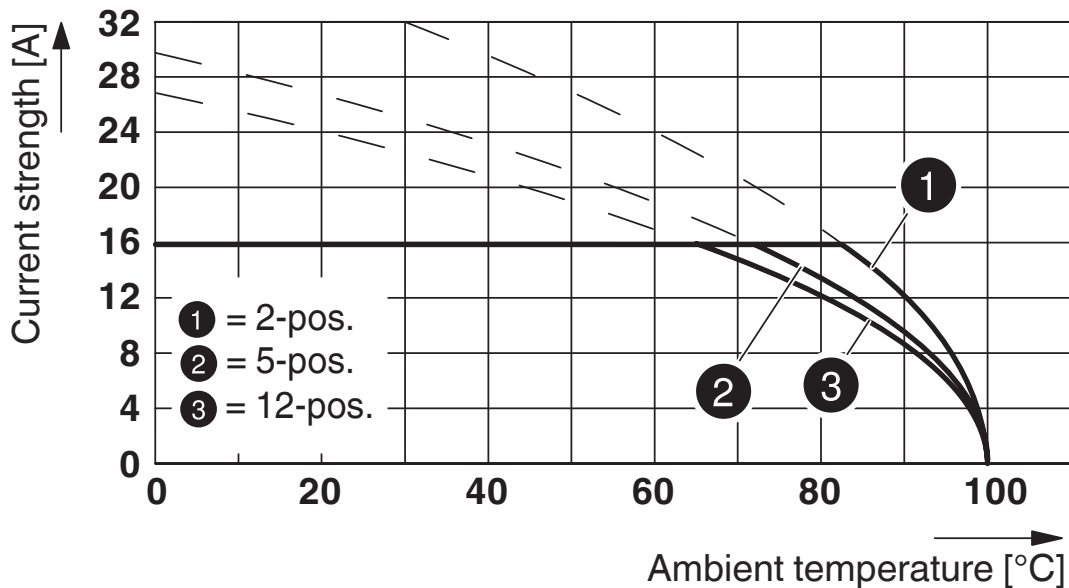
| | |
|--|---|
| Specification | IEC 60664-1:2007-04 |
| Insulating material group | I |
| Comparative tracking index (IEC 60112) | CTI 600 |
| Rated insulation voltage (III/3) | 250 V |
| Rated surge voltage (III/3) | 4 kV |
| minimum clearance value - non-homogenous field (III/3) | 3 mm |
| minimum creepage distance (III/3) | 3.2 mm |
| Note on connection cross section | With connected conductor 2.5 mm ² (solid). |
| Rated insulation voltage (III/2) | 320 V |
| Rated surge voltage (III/2) | 4 kV |
| minimum clearance value - non-homogenous field (III/2) | 3 mm |
| minimum creepage distance (III/2) | 1.6 mm |
| Rated insulation voltage (II/2) | 630 V |
| Rated surge voltage (II/2) | 4 kV |
| minimum clearance value - non-homogenous field (II/2) | 3 mm |
| minimum creepage distance (II/2) | 3.2 mm |

Packaging specifications

| | |
|-------------------|---------------------|
| Type of packaging | packed in cardboard |
|-------------------|---------------------|

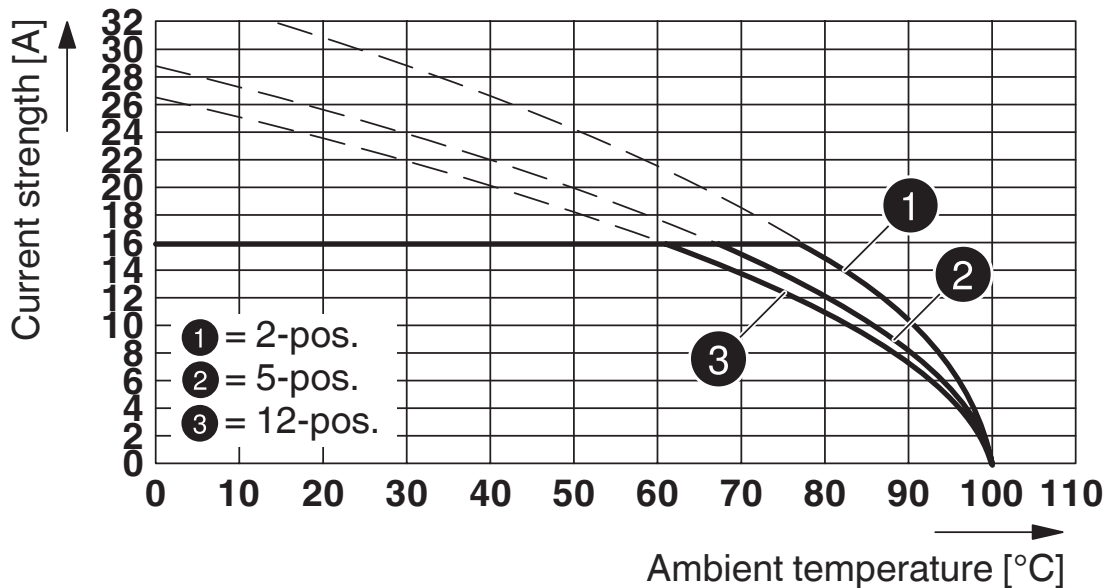
Drawings

Diagram



Derating curve for: MSTB 2,5 HC/...-STF-5,08 with CCV 2,5/...-GF-5,08 P26THR

Diagram

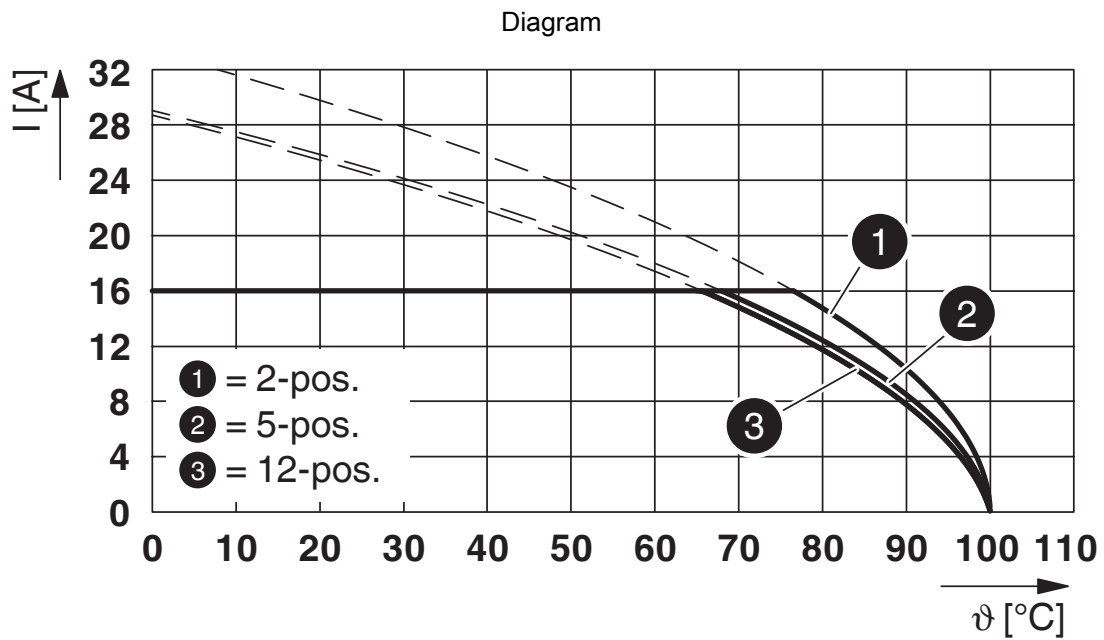


Type: MSTB 2,5 HC/...-STF-5,08 with MSTB 2,5 HC/...-GF-5,08

MSTB 2,5 HC/ 3-STF-5,08 - PCB connector

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Type: MSTB 2,5 HC/...-STF-5,08 with MSTBV 2,5/...-GF-5,08


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Approvals

|  IECEE CB Scheme Approval ID: DE1-60988-B1B2 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal Voltage U_N | Nominal Current I_N | Cross Section AWG | Cross Section mm^2 |
| | 250 V | 16 A | - | 0.2 - 2.5 |

|  EAC Approval ID: B.01687 | | | | |
|--|--|--|--|--|
|--|--|--|--|--|

|  cULus Recognized Approval ID: E60425-19931011 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal Voltage U_N | Nominal Current I_N | Cross Section AWG | Cross Section mm^2 |
| | 300 V | 16 A | 30 - 12 | - |
| | 300 V | 10 A | 30 - 12 | - |

|  VDE Zeichengenehmigung Approval ID: 40050079 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal Voltage U_N | Nominal Current I_N | Cross Section AWG | Cross Section mm^2 |
| | 250 V | 16 A | - | 0.2 - 2.5 |

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-11.0 | 27460202 |
| ECLASS-12.0 | 27460202 |
| ECLASS-13.0 | 27460202 |

ETIM

| | |
|----------|----------|
| ETIM 8.0 | EC002638 |
|----------|----------|

UNSPSC

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

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Environmental Product Compliance

| | |
|------------|---|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
| | No hazardous substances above threshold values |

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Accessories

SZS 0,6X3,5 - Screwdriver

1205053

<https://www.phoenixcontact.com/in/products/1205053>



Actuation tool, for ST terminal blocks, insulated, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

SK 5,08/3,8:FORTL.ZAHLEN - Marker card

0804293

<https://www.phoenixcontact.com/in/products/0804293>



Marker card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... (99)100, mounting type: adhesive, for terminal block width: 5.08 mm, lettering field size: 5.08 x 3.8 mm

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CP-MSTB - Coding profile

1734634

<https://www.phoenixcontact.com/in/products/1734634>

Coding profile, is inserted into the slot on the plug or inverted header, red insulating material



EBP 2- 5 - Insertion bridge

1733169

<https://www.phoenixcontact.com/in/products/1733169>

Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch



MSTB 2,5 HC/ 3-STF-5,08 - PCB connector



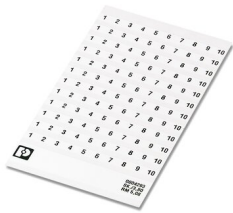
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SK 3,8 REEL P5,08 WH CUS - Marker card

0825125

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Marker card, can be ordered: by card, white, labeled according to customer specifications, mounting type: adhesive, for terminal block width: 5.08 mm, lettering field size: continuous x 3.8 mm

SK U/3,8 WH:UNBEDRUCKT - Marker card

0803906

<https://www.phoenixcontact.com/in/products/0803906>



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 3.8 mm, Number of individual labels: 1440

MSTB 2,5 HC/ 3-STF-5,08 - PCB connector



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SK 3,8 WH:REEL - Marker strip

0805218

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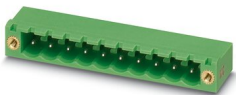


Marker strip, Roll, white, unlabeled, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: adhesive, for terminal block width: 90000 mm, lettering field size: continuous x 3.8 mm, Number of individual labels: 210000

MSTB 2,5 HC/ 3-GF-5,08 - PCB header

1924091

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PCB headers, nominal cross section: 2.5 mm², color: green, nominal current: 16 A (see derating curve), rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Pin, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MSTB 2,5 HC/...-GF, pitch: 5.08 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm, number of solder pins per potential: 1, plug-in system: COMBICON MSTB 2,5 HC, Pin connector pattern alignment: Standard, locking: Screw locking, mounting: Threaded flange, type of packaging: packed in cardboard

MSTB 2,5 HC/ 3-STF-5,08 - PCB connector



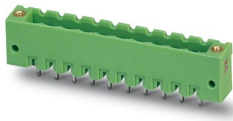
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MSTBV 2,5 HC/ 3-GF-5,08 - PCB header

1924538

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PCB headers, nominal cross section: 2.5 mm², color: green, nominal current: 16 A (see derating curve), rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Pin, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MSTBV 2,5 HC/...-GF, pitch: 5.08 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm, number of solder pins per potential: 1, plug-in system: COMBICON MSTB 2,5 HC, Pin connector pattern alignment: Standard, locking: Screw locking, mounting: Threaded flange, type of packaging: packed in cardboard

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