

# MSTBO 2,5/ 4-G1PL GY7035 - PCB header



2200325

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PCB headers, nominal cross section: 2.5 mm<sup>2</sup>, color: light gray, nominal current: 16 A, rated voltage (III/2): 320 V, contact surface: Sn, contact connection type: Pin, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: MSTBO 2,5/...-G1PL, pitch: 5 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, Pin connector pattern alignment: Orthogonal, locking: without, type of packaging: packed in cardboard, Product with pin output on left side

## Your advantages

- Plug-in direction orthogonal to the PCB

## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 2200325             |
| Packing unit                         | 50 pc               |
| Minimum order quantity               | 50 pc               |
| Sales key                            | AC08                |
| Product key                          | ACHADB              |
| Catalog page                         | Page 325 (C-1-2013) |
| GTIN                                 | 4046356566315       |
| Weight per piece (including packing) | 2.855 g             |
| Weight per piece (excluding packing) | 2.849 g             |
| Customs tariff number                | 85366930            |
| Country of origin                    | PL                  |

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## Technical data

### Product properties

|                           |                    |
|---------------------------|--------------------|
| Product type              | PCB headers        |
| Product family            | MSTBO 2,5/...-G1PL |
| Type                      | Standard           |
| Number of positions       | 4                  |
| Pitch                     | 5 mm               |
| Number of connections     | 4                  |
| Number of rows            | 1                  |
| Number of potentials      | 4                  |
| Mounting flange           | without            |
| Pin layout                | Linear pinning     |
| Solder pins per potential | 1                  |

### Data management status

|                  |    |
|------------------|----|
| Article revision | 02 |
|------------------|----|

### Electrical properties

|                             |         |
|-----------------------------|---------|
| Nominal current $I_N$       | 16 A    |
| Nominal voltage $U_N$       | 320 V   |
| Contact resistance          | 1.44 mΩ |
| Rated voltage (III/3)       | 320 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    |

### Mounting

|               |                |
|---------------|----------------|
| 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                                                                       |

#### Material data - housing

|                           |                   |
|---------------------------|-------------------|
| Color (Housing)           | light gray (7035) |
| Insulating material       | PA                |
| Insulating material group | I                 |

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|                                                                   |        |
|-------------------------------------------------------------------|--------|
| 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                 | 5 mm     |
| Width [w]             | 19.95 mm |
| Height [h]            | 16.5 mm  |
| Length [l]            | 15.35 mm |
| Solder pin length [P] | 3.5 mm   |
| Pin dimensions        | 1 x 1 mm |

## PCB design

|               |         |
|---------------|---------|
| Pin spacing   | 5.00 mm |
| Hole diameter | 1.4 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            |

### Contact holder in insert

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

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## Insertion and withdrawal forces

| Result                              | Test passed |
|-------------------------------------|-------------|
| No. of cycles                       | 25          |
| Insertion strength per pos. approx. | 8 N         |
| Withdraw strength per pos. approx.  | 6 N         |

## Electrical tests

### Thermal test | Test group C

|                            |                       |
|----------------------------|-----------------------|
| Specification              | IEC 60512-5-1:2002-02 |
| Tested number of positions | 4                     |

### Insulation resistance

|                                              |                       |
|----------------------------------------------|-----------------------|
| Specification                                | IEC 60512-3-1:2002-02 |
| Insulation resistance, neighboring positions | > 1 TΩ                |

### Air clearances and creepage distances |

|                                                        |         |
|--------------------------------------------------------|---------|
| Insulating material group                              | I       |
| Comparative tracking index (IEC 60112)                 | CTI 600 |
| Rated insulation voltage (III/3)                       | 320 V   |
| Rated surge voltage (III/3)                            | 4 kV    |
| minimum clearance value - non-homogenous field (III/3) | 3 mm    |
| minimum creepage distance (III/3)                      | 4 mm    |
| 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  |

## 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) |
| Acceleration           | 5g (60.1 Hz ... 150 Hz)     |
| Test duration per axis | 2.5 h                       |
| Test directions        | X-, Y- and Z-axis           |

### Durability test

|                                        |                       |
|----------------------------------------|-----------------------|
| Specification                          | IEC 60512-9-1:2010-03 |
| Impulse withstand voltage at sea level | 4.8 kV                |

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|                                              |         |
|----------------------------------------------|---------|
| Contact resistance $R_1$                     | 1.44 mΩ |
| Contact resistance $R_2$                     | 1.49 mΩ |
| Insertion/withdrawal cycles                  | 25      |
| Insulation resistance, neighboring positions | > 1 TΩ  |

## Climatic test

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

## Ambient conditions

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

## Packaging specifications

|                      |                     |
|----------------------|---------------------|
| Type of packaging    | packed in cardboard |
| Outer packaging type | Carton              |

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2200325>

|                                                                                                                                           |                       |                       |                   |                             |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|  <b>cULus Recognized</b><br>Approval ID: E60425-19931012 |                       |                       |                   |                             |
|                                                                                                                                           | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Use group B                                                                                                                               |                       |                       |                   |                             |
|                                                                                                                                           | 300 V                 | 15 A                  | -                 | -                           |

|                                                                                                                                                           |                       |                       |                   |                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|  <b>VDE Gutachten mit Fertigungsüberwachung</b><br>Approval ID: 40044868 |                       |                       |                   |                             |
|                                                                                                                                                           | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|                                                                                                                                                           | 320 V                 | 16 A                  | -                 | -                           |

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27460201 |
| ECLASS-12.0 | 27460201 |
| ECLASS-13.0 | 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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