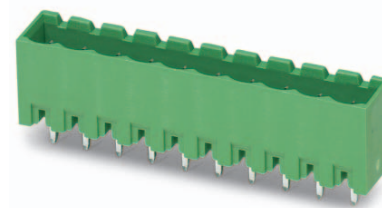


Data sheet

Order No.: 1755765

Type: MSTBVA 2,5/ 5-G-5,08

Header



The figure shows a 10-position version of the product

1 Main features



- | | | | |
|-------------------------|---------------------|------------------------|---------------------|
| • No. of pos. | 5 | • Nominal current | 12 A |
| • Nominal cross section | 2.5 mm ² | • Nominal voltage | 320 V |
| • Color | green | • Connection direction | 90 ° |
| • Pitch | 5.08 mm | • Type of packaging | packed in cardboard |
| • Mounting type | Wave soldering | | |

2 Your advantages

- ✓ Maximum flexibility when it comes to device design – one header for connectors with different connection technologies
- ✓ Well-known mounting principle allows worldwide use
- ✓ Vertical connection enables multi-row arrangement on the PCB
- ✓ Closed contour for optimum stability of the plug-in connection



Make sure you always use the latest documentation.

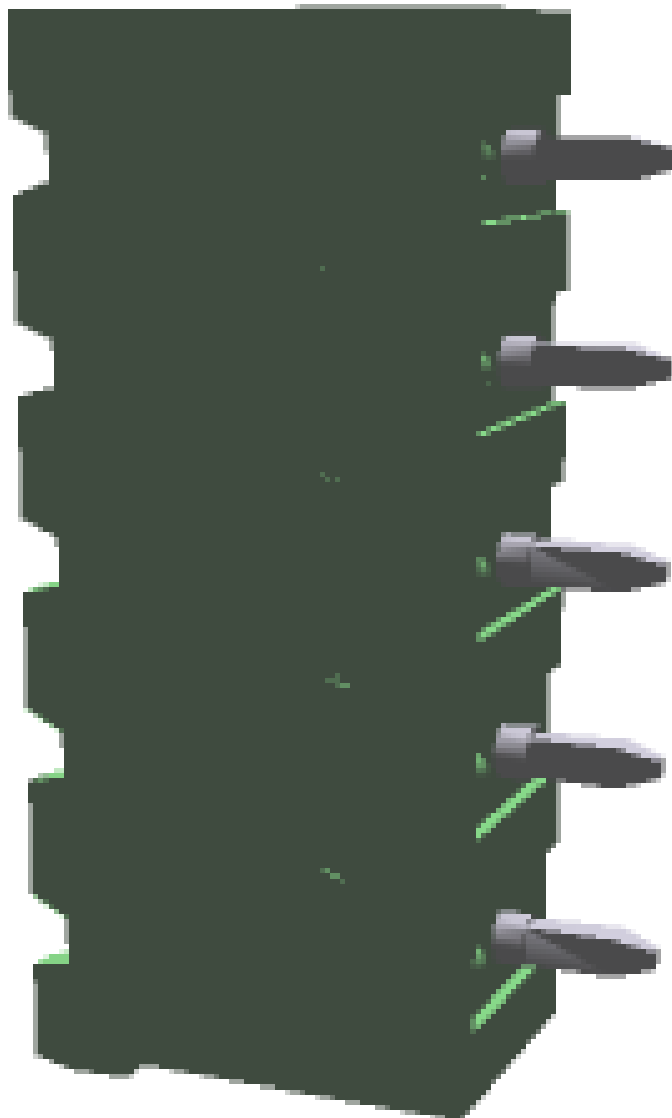
It can be downloaded at: phoenixcontact.net/product/1755765

1755765 MSTBVA 2,5/ 5-G-5,08**3 Table of contents**

| | | |
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1755765 MSTBVA 2,5/ 5-G-5,08

4 3D model in PDF can be activated (Acrobat Reader only)



1755765 MSTBVA 2,5/ 5-G-5,08**5 item properties**

| | |
|---------------------|----------------------|
| Order No. | 1755765 |
| Type | MSTBVA 2,5/ 5-G-5,08 |
| Type of contact | Male connector |
| Range of articles | MSTBVA 2,5/..-G |
| Pitch | 5.08 mm |
| Number of positions | 5 |
| Locking | without |
| Mounting type | Wave soldering |
| Pin layout | Linear pinning |

5.1 Material data

| | |
|---|---|
| Material of metal parts | |
| Note | WEEE/RoHS-compliant, whisker-free acc. to IEC 60068-2-82/JEDEC JESD 201 |
| Contact material | Cu alloy |
| Surface contact area | Ni 1 µm ... 3 µm , Sn 3 µm ... 5 µm |
| Soldering area surface | Ni 1 µm ... 3 µm , Sn 3 µm ... 5 µm |
| Surface characteristics | Tin-plated |
| Insulating material data | |
| Insulating material | PA |
| CTI according to IEC 60112 | 600 |
| Flammability rating according to UL 94 | V0 |
| Color | green (6021) |
| 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 |

6 Dimensions**6.1 Dimensions for the product**

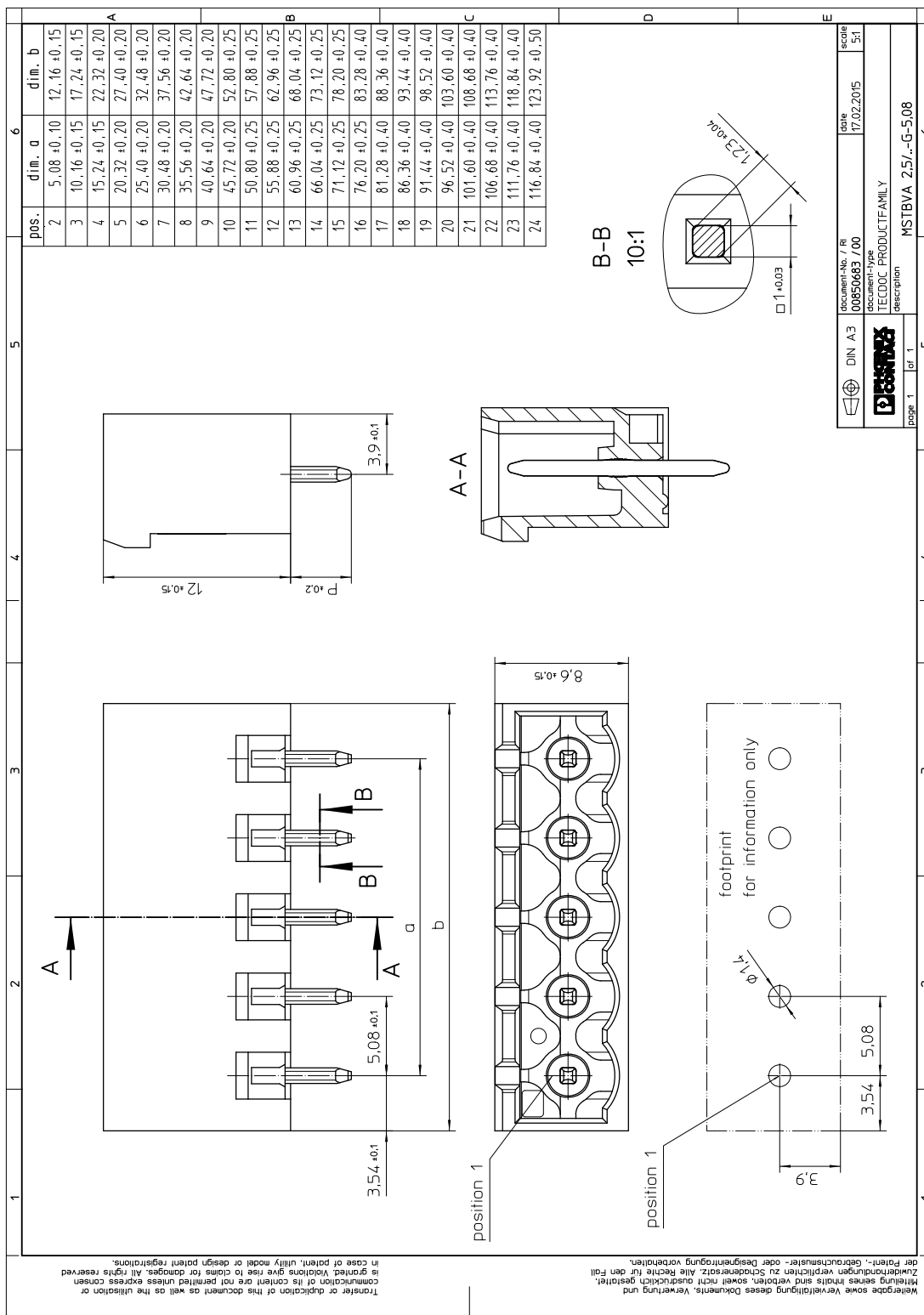
| | |
|-----------------------------|----------|
| Length | 8.6 mm |
| Width | 27.4 mm |
| Height (without solder pin) | 12 mm |
| Total height | 15.9 mm |
| Solder pin [P] | 3.9 mm |
| Dimension a | 20.32 mm |

6.2 Dimensions for PCB design

| | |
|----------------|----------|
| Hole diameter | 1.4 mm |
| Pin dimensions | 1 x 1 mm |

1755765 MSTBVA 2,5/ 5-G-5,08

7 Series drawing



1755765 MSTBVA 2,5/ 5-G-5,08**8 Packaging information**

| | |
|--------------------|---------------------|
| Type of packaging | packed in cardboard |
| Pieces per package | 250 |

9 Application**9.1 Temperature limit values**

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

1755765 MSTBVA 2,5/ 5-G-5,08**10 Mechanical tests**

| Mechanical test group A | |
|-------------------------------------|------------------------|
| Specification | IEC 61984:2008-10 |
| Visual test | Test passed |
| Specification | IEC 60512-1-1:2002-02 |
| Dimensional test | Test passed |
| Specification | IEC 60512-1-2:2002-02 |
| Resistance of marking | Test passed |
| Specification | IEC 60068-2-70:1995-12 |
| Insertion and withdrawal force | Test passed |
| Specification | IEC 60512-13-2:2006-02 |
| No. of cycles | 25 |
| Insertion strength per pos. approx. | 8 N |
| Withdraw strength per pos. approx. | 6 N |
| Polarization and coding | Test passed |
| Specification | IEC 60512-13-5:2006-02 |
| Test force | 20 N |
| Contact retention in insert | Test passed |
| Specification | IEC 60512-15-1:2008-05 |
| Test force per pos. | 30 N |

1755765 MSTBVA 2,5/ 5-G-5,08**11 Electrical tests****11.1 Electrical data**

| | |
|---|----------------------------|
| Rated current / conductor cross section | 12 A / 2.5 mm ² |
| Rated insulation voltage (III/2) | 320 V |
| Rated surge voltage (III/2) | 4 kV |
| Contact resistance | 2.4 mΩ |
| Degree of pollution | 2 |

11.2 Air and creepage distances

| | | | |
|---|---------------------|-------|--------|
| Component | Header | | |
| Specification | IEC 60664-1:2007-04 | | |
| Mains type | unearthed mains | | |
| Insulating material group | I | | |
| Comparative tracking index (IEC 60112:2003-01) | CTI 600 | | |
| Rated insulation voltage | 250 V | 320 V | 630 V |
| Rated surge voltage | 4 kV | 4 kV | 4 kV |
| Degree of pollution | 3 | 2 | 2 |
| Overvoltage category | III | III | II |
| Minimum clearance case A (inhomogeneous field) | 3 mm | 3 mm | 3 mm |
| Minimum value of the creepage path requirement in acc. with table | 3.2 mm | 3 mm | 3.2 mm |

1755765 MSTBVA 2,5/ 5-G-5,08

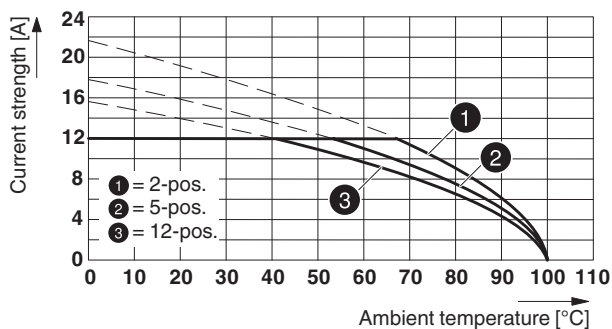
12 Current carrying capacity/derating curves

| | |
|-------------------------|---|
| Specification | IEC 61984:2008-10 |
| Note | Representation based on IEC 60512-5-2:2002-02 |
| Reduction factor | 0.8 |
| Number of positions | See diagram |
| Conductor cross section | 2.5 mm ² |
| Note | |

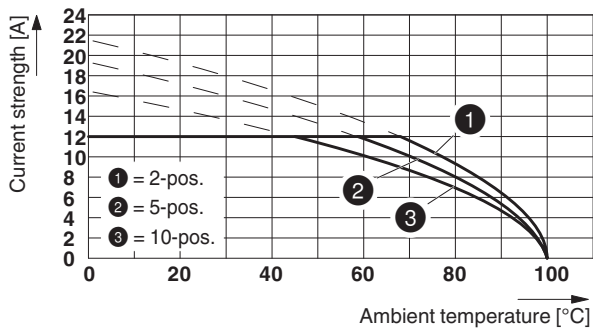
Type: MSTB 2,5/...-ST-5,08 with MSTBVA 2,5/...-G-5,08

87454_1000_en

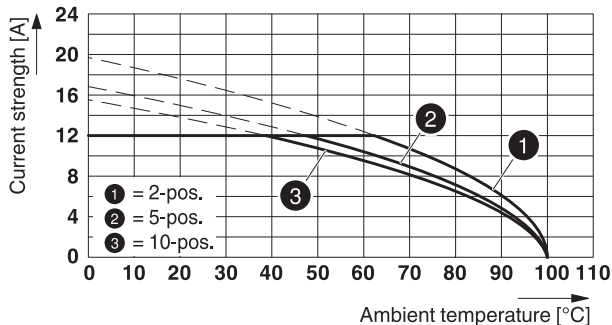
Type: FKCN 2,5/...-ST-5,08 with MSTBVA 2,5/...-G-5,08



Type: TFKC 2,5/...-ST-5,08 with MSTBVA 2,5/...-G-5,08



Type: TVMSTB 2,5/...-ST-5,08 with MSTBVA 2,5/...-G-5,08



2017-10-20

Product version 04

Document revision 0

1755765 MSTBVA 2,5/ 5-G-5,08

Type: MSTBP 2,5/...-ST-5,08 with MSTBVA 2,5/...-G-5,08

87462_1000_en


1755765 MSTBVA 2,5/ 5-G-5,08**13 Environmental and durability tests****13.1 Vibration test**


| | |
|------------------------|------------------------|
| Specification | IEC 60068-2-6:2007-12 |
| Result | Test passed |
| Frequency | 10 - 150 - 10 Hz |
| Sweep speed | 1 octave/min |
| Amplitude | 0.35 mm (10 - 60.1 Hz) |
| Acceleration | 5 g (60.1 - 150 Hz) |
| Test duration per axis | 2.5 h |
| Test directions | X-, Y- and Z-axis |


14 Classification for connectors


| | |
|-----------------------------------|--|
| Specification | IEC 61984:2008-10 |
| Main features | Connectors without switching capacity (COC) |
| Construction form | Fixed connectors |
| Strain relief elements | without strain relief |
| Protection against electric shock | Not encapsulated - touch-proof when inserted |
| Protection class | |
| Protective conductor | without PE |
| Lock | no |

15 Approvals

| CSA  | | | | |
|---|-------|-------|--|--|
| Use group | B | D | | |
| mm ² /AWG/kcmil | | | | |
| Voltage | 300 V | 300 V | | |
| Current | 12 A | 10 A | | |

| VDE Gutachten mit Fertigungsüberwachung  | | | | |
|---|-------|--|--|--|
| mm ² /AWG/kcmil | | | | |
| Voltage | 250 V | | | |
| Current | 12 A | | | |

| IECEE CB Scheme  | | | | |
|---|-------|--|--|--|
| mm ² /AWG/kcmil | | | | |
| Voltage | 250 V | | | |
| Current | 12 A | | | |

| cULus Recognized  | | | | |
|--|-------|-------|--|--|
| Use group | B | D | | |
| mm ² /AWG/kcmil | | | | |
| Voltage | 300 V | 300 V | | |
| Current | 12 A | 10 A | | |

| EAC  | | | | |
|---|--|--|--|--|
| | | | | |

1755765 MSTBVA 2,5/ 5-G-5,08**16 Commercial Data**

| | |
|--------------------|--|
| Order No. | 1755765 |
| Type | MSTBVA 2,5/ 5-G-5,08 |
| Pieces per package | 250 |
| Net weight | 1.903 g |
| GTIN | 4017918029340 |
| | Information that applies locally, see link on page 1 |
| Country of origin | Information that applies locally, see link on page 1 |

17 corresponding plugs

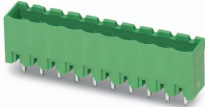


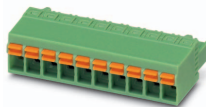
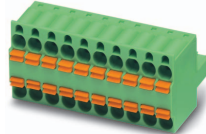
| Order No. | Type |
|-----------|---------------------------|
| 1719037 | TVMSTB 2,5/ 5-ST-5,08 |
| 1754597 | FKCN 2,5/ 5-ST-5,08 |
| 1757048 | MSTB 2,5/ 5-ST-5,08 |
| 1769049 | MSTBP 2,5/ 5-ST-5,08 |
| 1776142 | MSTB 2,5/ 5-STZ-5,08 |
| 1777316 | FRONT-MSTB 2,5/ 5-ST-5,08 |
| 1781014 | MSTBT 2,5/ 5-ST-5,08 |
| 1792278 | MVSTBR 2,5/ 5-ST-5,08 |
| 1792786 | MVSTBW 2,5/ 5-ST-5,08 |
| 1808845 | MSTBC 2,5/ 5-ST-5,08 |
| 1809530 | MSTBC 2,5/ 5-STZ-5,08 |
| 1824159 | MSTBU 2,5/ 5-STD-5,08 |
| 1824382 | MSTBU 2,5/ 5-ST-5,08-FL |
| 1826319 | SMSTB 2,5/ 5-ST-5,08 |
| 1831346 | MSTBVK 2,5/ 5-ST-5,08 |
| 1833849 | UMSTBVK 2,5/ 5-ST-5,08 |
| 1853049 | TMSTBP 2,5/ 5-ST-5,08 |
| 1873087 | FKC 2,5/ 5-ST-5,08 |
| 1873689 | FKCVW 2,5/ 5-ST-5,08 |
| 1873980 | FKCVR 2,5/ 5-ST-5,08 |
| 1883284 | QC 1/ 5-ST-5,08 |
| 1902149 | FKCT 2,5/ 5-ST-5,08 |
| 1962639 | TFKC 2,5/ 5-ST-5,08 |
| 1975105 | FKCS 2,5/ 5-ST-5,08 |

18 Accessories

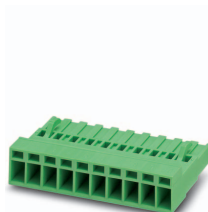
| Description | Order No. | Type |
|--|-----------|--------------------------|
| Coding section, inserted into the recess in the header or the inverted plug, red insulating material | 1734401 | CR-MSTB |
| | 0804293 | SK 5,08/3,8:FORTL.ZAHLEN |
| Keying cap, for forming sections, plugs onto header pin, green insulating material | 1755477 | MSTB-BL |

1755765 MSTBVA 2,5/ 5-G-5,08

19 Combination tests

| |  |  |  |  |  |
|--|---|---|---|---|---|
| | MSTBVA 2,5/..-G | MSTB 2,5/..-ST | MSTBT 2,5/..-ST | FKCN 2,5/..-ST | TFKC 2,5/..-ST |
| Specification | | IEC 61984 | IEC 61984 | IEC 61984 | IEC 61984 |
| Mechanical tests (A) | | | | | |
| Insertion/withdrawal force per position | | approx. 8 N / 6 N | | approx. 8 N / 6 N | approx. 10 N / 9.5 N |
| Polarization when inserted Requirement >20 N | | Test passed | | Test passed | Test passed |
| Contact holder in insert Requirements >20 N | | Test passed | | Test passed | Test passed |
| Durability tests (B) | | | | | |
| Contact resistance R ₁ | | 2.4 mΩ | | 2.2 mΩ | 2 mΩ |
| Insertion/withdrawal cycles | | 25 | | 25 | 25 |
| Contact resistance R ₂ | | 2.5 mΩ | | 2.3 mΩ | 2.2 mΩ |
| Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 μs) | | 4.8 kV | | 4.8 kV | 4.8 kV |
| Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz) | | 2.21 kV | | 2.21 kV | 2.21 kV |
| Insulation resistance Requirements > 5 MΩ | | > 0.2 TΩ | | > 100 GΩ | 10 ¹² Ω |
| Thermal tests (C) | | | | | |
| Tested number of positions | | 24 | | 12 | 10 |
| Tested conductor cross section | | 2.5 mm ² | | 2.5 mm ² | 2.5 mm ² |
| Upper limiting temperature Requirements < 100°C | | Test passed | | Test passed | Test passed |
| Climatic tests (D) | | | | | |
| Test sequence 1: low temperature storage | | -40 °C/2 h | | -40 °C/2 h | -40 °C/2 h |
| Test sequence 2: heat storage | | 100 °C/168 h | | 100 °C/168 h | 100 °C/168 h |
| Test sequence 3: noxious gas storage (ISO 6988) | | 0.2 dm ³ SO ₂ on 300 dm ³ / 40 °C/1 cycle | | 0.2 dm ³ SO ₂ on 300 dm ³ / 40 °C/1 cycle | 0.2 dm ³ SO ₂ on 300 dm ³ / 40 °C/1 cycle |
| Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 μs) | | 4.8 kV | | 4.8 kV | 4.8 kV |
| Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz) | | 2.21 kV | | 2.21 kV | 2.21 kV |
| Environmental and endurance tests (E) | | | | | |
| Specification | | IEC 61984:2008-10 | | IEC 61984:2008-10 | IEC 61984:2008-10 |
| Degree of protection | | Finger safety with IP20 test finger | | Finger safety with IP20 test finger | Finger safety with IP20 test finger |

1755765 MSTBVA 2,5/ 5-G-5,08



MSTBVA 2,5/..-G

MSTBC 2,5/..-ST

MSTBC 2,5/..-STZ

TVMSTB 2,5/..-ST

MSTBP 2,5/..-ST

Specification

IEC 61984

IEC 61984

IEC 61984

IEC 61984

Mechanical tests (A)

Insertion/withdrawal force per position

approx. 8 N / 6 N

approx. 8 N / 6 N

Polarization when inserted
Requirement >20 N

Test passed

Test passed

Contact holder in insert
Requirements >20 N

Test passed

Test passed

Durability tests (B)

Insertion/withdrawal cycles

25

25

Rated impulse voltage at sea level
Voltage waveform $\geq (1.2/50 \mu s)$

4.8 kV

4.8 kV

Power-frequency withstand voltage
Voltage waveform $\geq (50/60 \text{ Hz})$

2.21 kV

2.21 kV

Insulation resistance
Requirements > 5 M Ω

> 6 T Ω

> 0.2 T Ω

Thermal tests (C)

Tested number of positions

10

24

Tested conductor cross section

2.5 mm²

2.5 mm²

Test current

12 A DC

Upper limiting temperature
Requirements < 100°C

Test passed

Test passed

Climatic tests (D)

Test sequence 1: low temperature storage

-40 °C/2 h

-40 °C/2 h

Test sequence 2: heat storage

100 °C/168 h

100 °C/168 h

Test sequence 3: noxious gas storage
(ISO 6988)

0.2 dm³ SO₂ on 300 dm³/
40 °C/1 cycle

0.2 dm³ SO₂ on 300 dm³/
40 °C/1 cycle

Rated impulse voltage at sea level
Voltage waveform $\geq (1.2/50 \mu s)$

4.8 kV

4.8 kV

Power-frequency withstand voltage
Voltage waveform $\geq (50/60 \text{ Hz})$

2.21 kV

2.21 kV

Environmental and endurance tests (E)

Specification

IEC 61984:2008-10

IEC 61984:2008-10

Degree of protection

Finger safety with IP20
test finger

Finger safety with IP20
test finger



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