

45 4580 01 MP T0,8

High-current contact elements



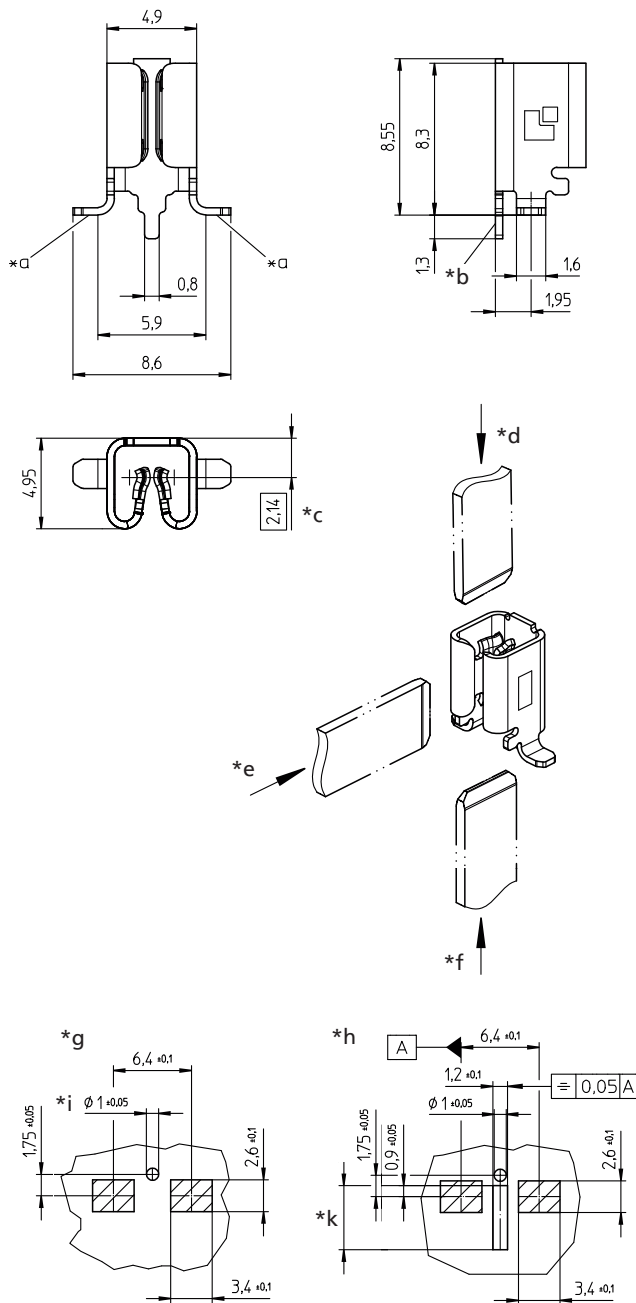
High-current contact bush with positioning peg, in surface mount technology (SMT), mateable from top, bottom or lateral direction, for tab contacts 0.8 mm, for printed circuit boards or busbars

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Approvals: **LV215**

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# 45 4580 01 MP T0,8



## Environmental conditions

Temperature range -40 °C/+120 °C

## Materials

Contact CuCr alloy, tin-plated

## Mechanical data

Mating with tab contact 2.8–6.8 mm x 0.8 mm applicable for reflow soldering on printed circuit board applicable for laser welding on a busbar or lead frame

Mating cycles ≤ 5

Insertion force 35 N ± 15 N – top entry  
18 N ± 10 N – lateral entry  
35 N ± 15 N – bottom entry<sup>1</sup>

Withdrawal force 35 N ± 10 N – top entry  
15 N ± 10 N – lateral entry  
35 N ± 10 N – bottom entry<sup>1</sup>

<sup>1</sup> measured with a tin-plated test tab

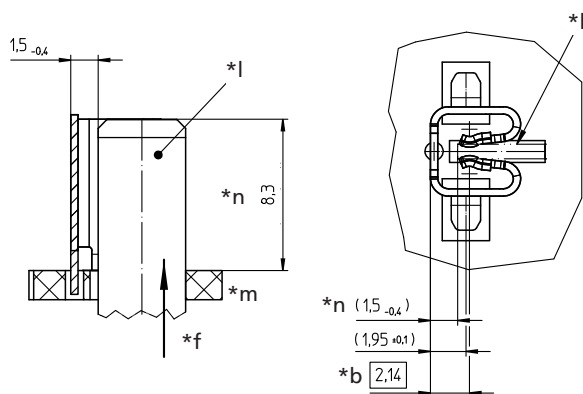
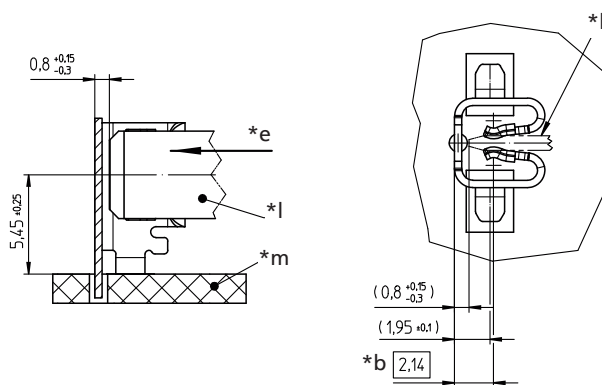
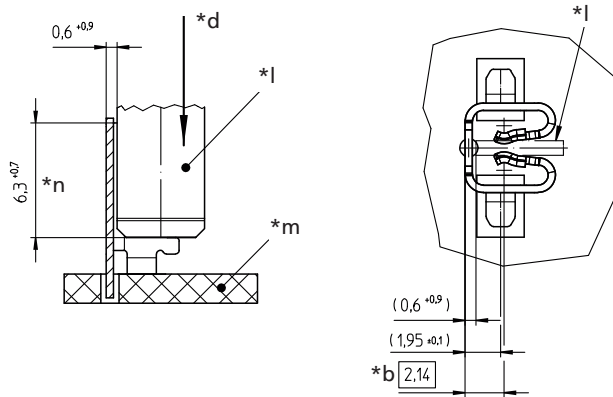
## Electrical data (at T<sub>amb</sub> 20 °C)

Contact resistance < 1 mΩ

Rated current ≤ 56 A<sup>1</sup>

<sup>1</sup> depending on the connection to the printed circuit board/busbar, installation situation and heat dissipation

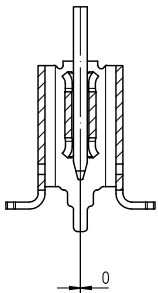
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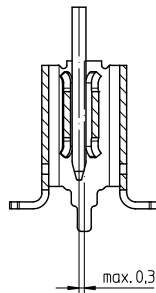
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Assembly tolerances for top and bottom entry

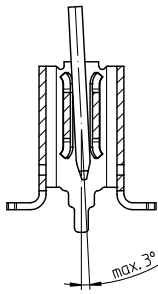
- tab dimensions 4.8 mm x 0.8 mm x length 8 mm
- larger assembly tolerances possible for lengths > 15 mm



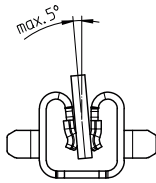
typical mating



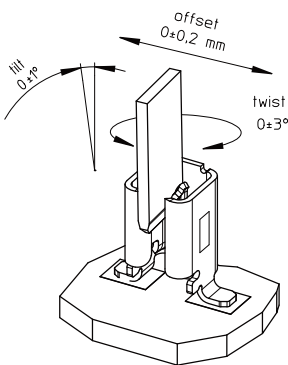
permissible lateral offset



permissible tilt



permissible twist

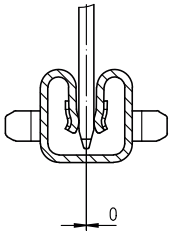


permissible combined tolerances

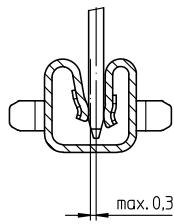
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## Assembly tolerances for lateral entry

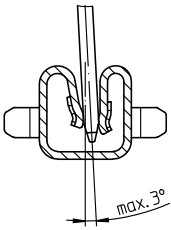
- tab dimensions 4.8 mm x 0.8 mm x length 8 mm
- larger assembly tolerances possible for lengths > 15 mm



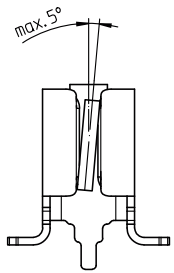
typical mating



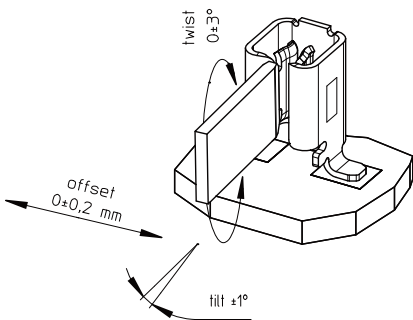
permissible lateral offset



permissible tilt



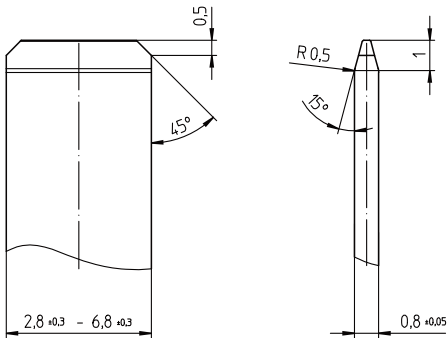
permissible twist



permissible combined tolerances

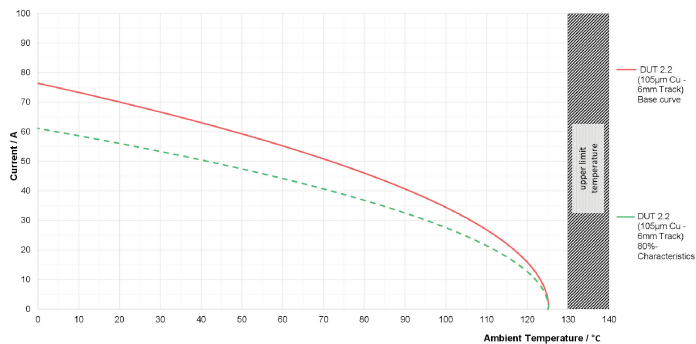
## 45 4580 01 MP T0,8

### Geometry of the mating tab contact



Material to be coordinated with Lumberg.

### Derating diagram



Test setup: application example of a closed system, no air circulation, no heat dissipation

- tab contact: CuZn37, tin-plated, 4.8 mm x 0.8 mm (corresponding to a cross section of 4 mm<sup>2</sup>)
- connected wire: section 6 mm<sup>2</sup>
- PCB: double-sided, conductor thickness 105 µm, track width 6 mm
- ambient temperature: 20 °C

Further test configurations and details upon request.

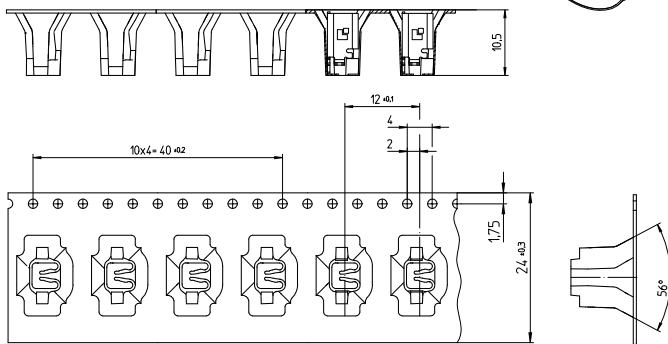
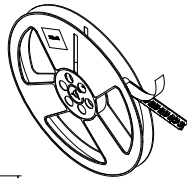
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### Packaging

reel: 330 mm/110 mm/24,5 mm

leader: 408 mm, 34 empty cavities

trailer: 168 mm, 14 empty cavities



- \*a SMT solder area
- \*b positioning peg
- \*c contact point
- \*d mating from top direction
- \*e mating from lateral direction
- \*f mating from bottom direction
- \*g printed circuit board layout (example) for mating from top or lateral direction
- \*h printed circuit board layout (example) for mating from bottom direction
- \*i bore hole for positioning peg
- \*k slot in the printed circuit board min. 0.5 mm wider than tab
- \*l contact tab
- \*m printed circuit board
- \*n insertion depth
- \*o dimension 1.5 mm depending on the slot in the printed circuit board

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| Designation             | Pole Number | PU (Pieces) | MDQ (Pieces) |
|-------------------------|-------------|-------------|--------------|
| 4580 01 MP T0,8 V12VP12 | 1           | 4000        |              |

**Packaging:**  
on reel

# 4580 01 - High-current contact

## Overview acc. LV 215 Edition (VW 80332: 2021-02)

Test PCB: FR4 1.6 mm ±10 % (IPC 4101C/121) TG (DSC= 170 °C / 2 layers Cu 105 µm / 6 mm)

Connection wire cross section for high load: 6 mm²



Version: 1

13.06.2025

| Test group |                                                                                  |                                                                               | Results                                                                  |
|------------|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| TG 1       | Dimensions                                                                       |                                                                               | OK                                                                       |
| TG 2       | Material and surface analysis, contacts                                          |                                                                               | OK                                                                       |
| TG 3       | Material and surface analysis, housing                                           |                                                                               | OK*                                                                      |
| TG 4       | Contact engagement Length                                                        | Contact overlap – Plug in direction top/bottom                                | OK                                                                       |
|            |                                                                                  | Contact overlap – Plug in direction horizontal                                | <b>with limitations</b><br><b>Design-related contact overlap 0.69 mm</b> |
| TG 5       | Mechanical and thermal relaxation behaviour                                      |                                                                               | OK                                                                       |
| TG 6       | Interaction between contact and contact housing                                  |                                                                               | OK*                                                                      |
| TG 7       | Handling and functional reliability of the contact housings                      |                                                                               | OK*                                                                      |
| TG 8       | Insertion and holding forces of the contact parts in the contact housing         |                                                                               | OK*                                                                      |
| TG 9       | Pin insertion angle/misuse-proofing (scoop- proofing)                            |                                                                               | OK                                                                       |
| TG 10      | Contacts:<br>Based on PG 10 - Misuse / Share force from PCBA<br>SMD variant only |                                                                               | OK                                                                       |
| TG 11      | Contacts: Insertion and extraction forces; number of mating cycles               | Insertion/extraction direction from horizontal/front side                     | OK                                                                       |
|            |                                                                                  | Insertion/extraction direction from top side/bottom side                      | <b>with limitations</b><br><b>Change in insertion force up to 30 %</b>   |
|            |                                                                                  | Insertion force change max. 25 % on each sample between 1st and 5th insertion |                                                                          |
| TG 12      | Current heating derating - free in air                                           |                                                                               | OK                                                                       |
| TG 13      | Derating wit housing                                                             |                                                                               | OK                                                                       |
| TG 14      | Thermal time constant                                                            |                                                                               | OK                                                                       |
| TG 15      | Electrical stress test                                                           |                                                                               | OK                                                                       |
| TG 16      | Fretting corrosion                                                               |                                                                               | OK                                                                       |
| TG 17      | Dynamic loading - Severity 2                                                     |                                                                               | OK                                                                       |
| TG 18 A    | Coastal climate stress                                                           |                                                                               | OK*                                                                      |
| TG 19      | Environmental simulation                                                         |                                                                               | OK                                                                       |
| TG 20A     | Environmental load of the housing                                                |                                                                               | OK*                                                                      |
| TG 21      | Long-term temperature aging                                                      |                                                                               | OK*                                                                      |
| TG 22A     | Chemical resistance                                                              |                                                                               | OK*                                                                      |

\*= not relevant for the application