



## Inline bridge

## One-Phase Si-Bridge Rectifiers

BI 6-005 ... BI 6-16

Forward Current: 6 A

Reverse Voltage: 50 to 1600 V

Publish Data

### Features

- Max. solder temperature: 260 °C, max. 5s
- UL recognized, file No. E63532
- $V_{ISO} > 2500$  V
- In-line isolated metal case with wired connectors
- Blocking voltage to 1600V
- High surge current
- Input rectifier for variable frequency drivers
- Rectifier for DC motor field supplies
- Battery charger
- Recommended snubber network : RC 50Ω, 0.1μF

### Mechanical Data

- Metal case, dimensions: 40 x 20 x 10 mm
- Weight approx. 35
- Terminals: plated terminals solderable per IEC 68-2-20
- Admissible torque for mounting (M 4): 2 (± 10 %) N
- Standard packing : bulk
- Heat sink moutingn not on the marking side

| Type     | Alternating input voltage<br>$V_{RMS}$<br>V | Repetitive peak reverse voltage<br>$V_{RRM}$<br>V |
|----------|---------------------------------------------|---------------------------------------------------|
| BI 6-005 | 35                                          | 50                                                |
| BI 6-01  | 70                                          | 100                                               |
| BI 6-02  | 140                                         | 200                                               |
| BI 6-04  | 280                                         | 400                                               |
| BI 6-06  | 420                                         | 600                                               |
| BI 6-08  | 560                                         | 800                                               |
| BI 6-10  | 700                                         | 1000                                              |
| BI 6-12  | 800                                         | 1200                                              |
| BI 6-14  | 900                                         | 1400                                              |
| BI 6-16  | 1000                                        | 1600                                              |

### Absolute Maximum Ratings $T_c = 25$ °C unless otherwise specified

| Symbol    | Conditions                                                          | Values            | Units            |
|-----------|---------------------------------------------------------------------|-------------------|------------------|
| $I_{FRM}$ | Repetitive peak forward current; $f > 15$ Hz <sup>1)</sup>          | 30                | A                |
| $I^2t$    | Rating for fusing, $t < 10$ ms                                      | 60                | A <sup>2</sup> s |
| $I_{FSM}$ | Peak forward surge current, 50 Hz half sine-wave<br>$T_A = 25$ °C   | 125               | A                |
| $I_{FAV}$ | Max. averaged fwd. current, R-load, $T_A = 50$ °C <sup>1)</sup>     | 2,0               | A                |
| $I_{FAV}$ | Max. averaged fwd. current, C-load, $T_A = 50$ °C <sup>1)</sup>     | 1,6               | A                |
| $I_{FAV}$ | Max. current with cooling fin, R-load, $T_c = 100$ °C <sup>2)</sup> | 6                 | A                |
| $I_{FAV}$ | Max. current with cooling fin, C-load, $T_c = 100$ °C <sup>2)</sup> | 4,8               | A                |
| $R_{thA}$ | Thermal resistance junction to ambient <sup>1)</sup>                | 8                 | K/W              |
| $R_{thC}$ | Thermal resistance junction to case <sup>1)</sup>                   | 4,1               | K/W              |
| $T_j$     | Operating junction temperature                                      | - 50 ... + 150 °C | °C               |
| $T_s$     | Storage temperature                                                 | - 50 ... + 150 °C | °C               |

### Characteristics $T_c = 25$ °C unless otherwise specified

| Symbol | Conditions                                                 | Values | Units |
|--------|------------------------------------------------------------|--------|-------|
| $V_F$  | Maximum forward. voltage,<br>$T_j = 25$ °C; $I_F = 3$ A    | 1,1    | V     |
| $I_R$  | Maximum Leakage current,<br>$T_j = 25$ °C; $V_R = V_{RRM}$ | 10     | μA    |
| $C_j$  | Typical junction capacitance per leg at V, MHz             |        | pF    |

Dimensions in mm



