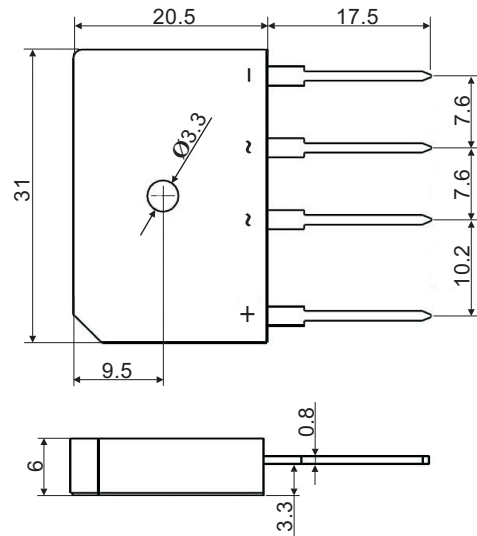
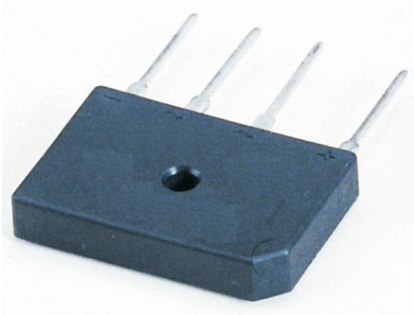


Single-Phase Bridge Rectifier, 50A

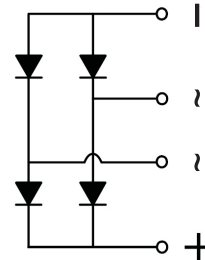
KBJ5004 Thru KBJ5012



All dimensions in millimeters

FEATURES

- UL recognition file number E320098
- Typical IR less than 2.0 μA
- High surge current capability
- Low thermal resistance
- Compliant to RoHS
- Isolation voltage up to 2500V



TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for big power supply, field supply for DC motor, industrial automation applications.

ADVANTAGE

- International standard package
- Epoxy meets UL 94 V-O flammability rating
- Small volume, light weight
- Small thermal resistance
- High heat-conduction rate
- Low temperature rise
- **Weight:** 10g (0.35 ozs)

PRIMARY CHARACTERISTICS

| | |
|-------------|-----------------|
| $I_{F(AV)}$ | 50A |
| V_{RRM} | 400V to 1200V |
| I_{FSM} | 450A |
| I_R | 5 μA |
| V_F | 1.10V |
| $T_{Jmax.}$ | 150°C |

Nell High Power Products

| MAJOR RATINGS AND CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | | | | | |
|--|-------------|------------|-----|-----|------|------|------------------|
| PARAMETER | SYMBOL | KBJ50 | | | | | UNIT |
| | | 04 | 06 | 08 | 10 | 12 | |
| Maximum repetitive peak reverse voltage | V_{RRM} | 400 | 600 | 800 | 1000 | 1200 | V |
| Peak reverse non-repetitive voltage | V_{RSM} | 500 | 700 | 900 | 1100 | 1300 | V |
| Maximum DC blocking voltage | V_{DC} | 400 | 600 | 800 | 1000 | 1200 | V |
| Maximum average forward rectified output current | $I_{F(AV)}$ | 50 | | | | | A |
| Peak forward surge current single sine-wave superimposed on rated load | I_{FSM} | 450 | | | | | A |
| Rating (non-repetitive, for t greater than 1 ms and less than 8.3 ms) for fusing | I^2t | 1012 | | | | | A ² s |
| RMS isolation voltage from case to leads | V_{ISO} | 2500 | | | | | V |
| Operating junction storage temperature range | T_J | -40 to 150 | | | | | °C |
| Storage temperature range | T_{STG} | -40 to 125 | | | | | °C |

| ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | | | | | | |
|---|---------------------------|--------|-------|----|----|----|----|---------------|
| PARAMETER | TEST CONDITIONS | SYMBOL | KBJ50 | | | | | UNIT |
| | | | 04 | 06 | 08 | 10 | 12 | |
| Maximum instantaneous forward drop per diode | $I_F = 25\text{A}$ | V_F | 1.10 | | | | | V |
| Maximum reverse DC current at rated DC blocking voltage per diode | $T_A = 25^\circ\text{C}$ | I_R | 5 | | | | | μA |
| | $T_A = 150^\circ\text{C}$ | | 500 | | | | | |

| THERMAL AND MECHANICAL ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | | | | | | |
|---|--|-----------------------|-------|----|----|----|----|------|
| PARAMETER | TEST CONDITIONS | SYMBOL | KBJ50 | | | | | UNIT |
| | | | 04 | 06 | 08 | 10 | 12 | |
| Typical thermal resistance junction to case | Single-side heat dissipation, sine half wave | $R_{\theta JC}^{(1)}$ | 1.0 | | | | | °C/W |
| Mounting torque to heatsink M3 $\pm 10\%$ | A mounting compound is recommended and the torque should be rechecked after a period of 3 hours to allow for the spread of the compound. | | 2.5 | | | | | Nm |
| Approximate weight | | | 10 | | | | | g |

Notes

- (1) With heatsink, single side heat dissipation, half sine wave.
 (2) M3 screw.

