

KBPC10005~KBPC1010

SINGLE-PHASE SILICON BRIDGE RECTIFIERS

REVERSE VOLTAGE: 50 V to 1000 V

FORWARD CURRENT: 10 A

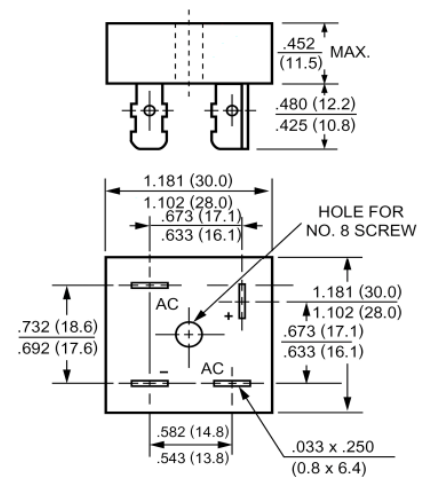
Features

- Reliable low cost construction
- Ideal for printed circuit board
- Low forward voltage drop
- Low reverse leakage current
- High surge current capability

Mechanical Data

- Case: KBPC

KBPC



Dimensions in inches and (millimeters)

Absolute Maximum Ratings and Characteristics

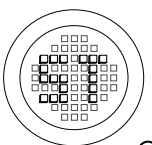
Rating at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| Parameter | Symbol | KBPC | KBPC | KBPC | KBPC | KBPC | KBPC | KBPC | Units |
|--|-----------------|---------------|------|------|------|------|------|------|--------------------|
| | | 10005 | 1001 | 1002 | 1004 | 1006 | 1008 | 1010 | |
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Average Forward Rectified Current at $T_C = 50\text{ }^\circ\text{C}$ | $I_{(AV)}$ | 10 | | | | | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC) | I_{FSM} | 200 | | | | | | | A |
| Maximum Forward Voltage at 5 A DC and 25 °C | V_F | 1.2 | | | | | | | V |
| Maximum Reverse Current at $T_A = 25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage $T_A = 100\text{ }^\circ\text{C}$ | I_R | 10 500 | | | | | | | μA |
| Typical Junction Capacitance ¹⁾ | C_J | 200 | | | | | | | pF |
| Typical Thermal Resistance ²⁾ | $R_{\theta JA}$ | 25 | | | | | | | $^\circ\text{C/W}$ |
| Typical Thermal Resistance ³⁾ | $R_{\theta JC}$ | 5 | | | | | | | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range | T_J, T_S | - 55 to + 125 | | | | | | | $^\circ\text{C}$ |

¹⁾ Measured at 1 MHz and applied reverse voltage of 4 VDC.

²⁾ Unit mounted on 8.6 X 8.6 X 0.24" thick (22 X 22 X 0.6 cm) Al, Plate.

³⁾ Unit mounted on P.C.B. at 0.375" (9.5 mm) lead length with 0.5 x 0.5" (12 x 12 mm) copper pads.



SEMTECH ELECTRONICS LTD.

(Subsidiary of Semtech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



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Certificate No. 7116



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Certificate No. 0506098

Dated : 16/07/2006 H

RATINGS AND CHARACTERISTIC CURVES

FIG.1- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER BRIDGE ELEMENT

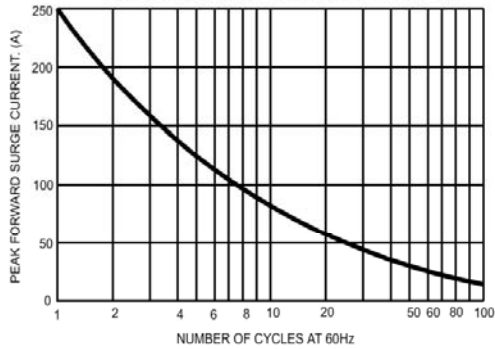


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

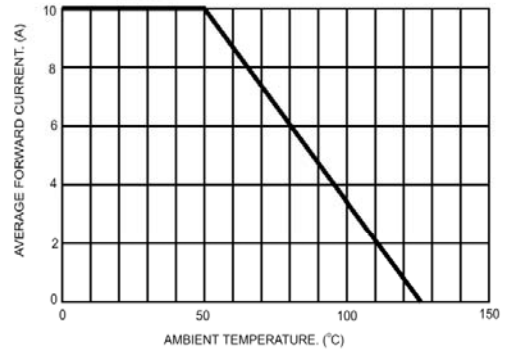


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER BRIDGE ELEMENT

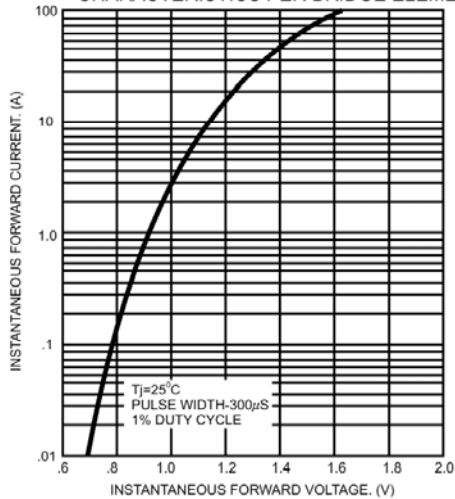
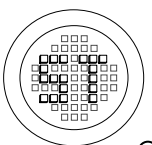
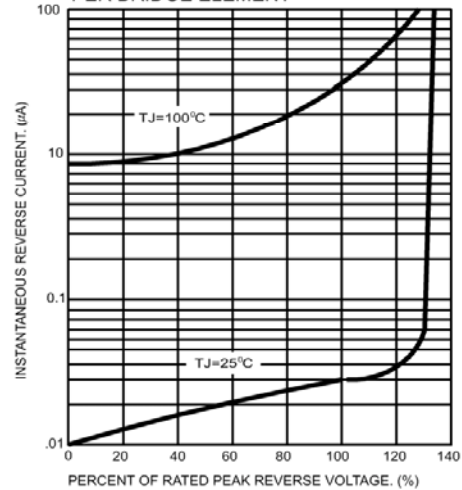


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER BRIDGE ELEMENT



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