

# KBPC10005~KBPC1010

## SINGLE-PHASE SILICON BRIDGE RECTIFIERS

REVERSE VOLTAGE: 50 V to 1000 V

FORWARD CURRENT: 10 A

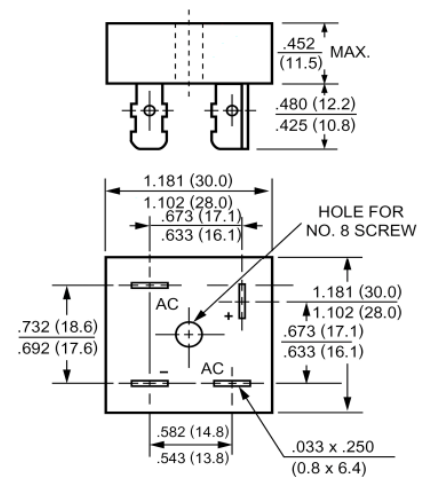
### Features

- 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

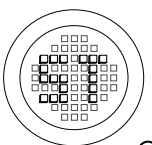
Rating at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

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							$\mu\text{A}$
Typical Junction Capacitance <sup>1)</sup>	$C_J$	200							pF
Typical Thermal Resistance <sup>2)</sup>	$R_{\theta JA}$	25							$^\circ\text{C/W}$
Typical Thermal Resistance <sup>3)</sup>	$R_{\theta JC}$	5							$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_S$	- 55 to + 125							$^\circ\text{C}$

<sup>1)</sup> Measured at 1 MHz and applied reverse voltage of 4 VDC.

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

<sup>3)</sup> 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.**

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## RATINGS AND CHARACTERISTIC CURVES

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

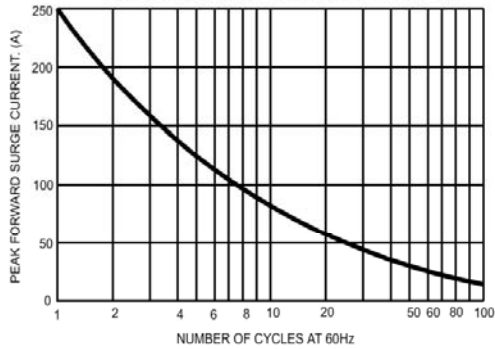


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

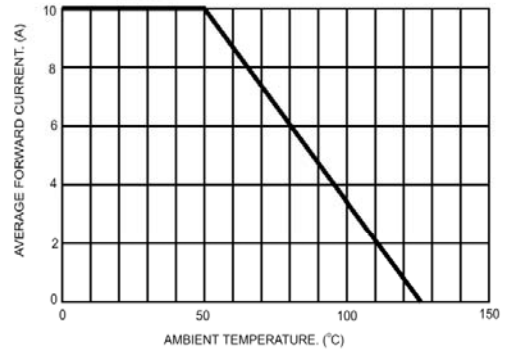


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER BRIDGE ELEMENT

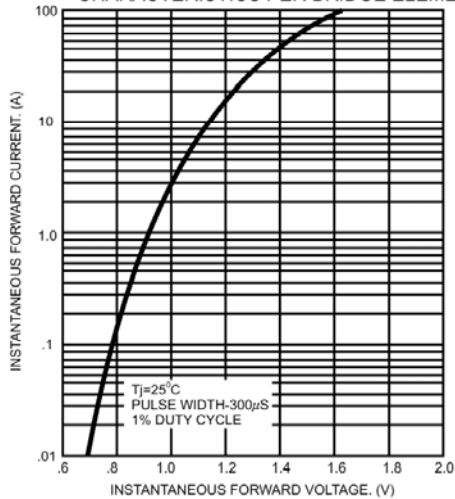
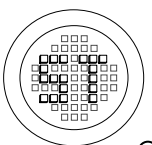
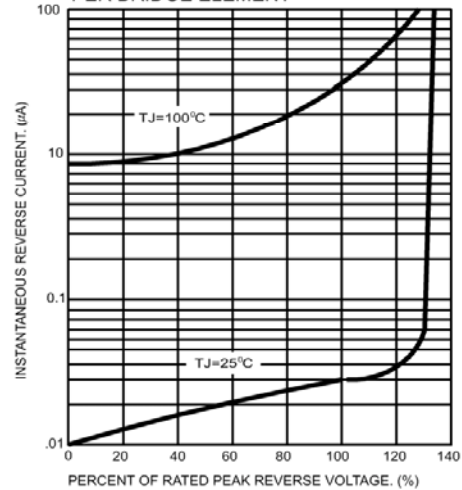


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER BRIDGE ELEMENT



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