

# KBU10005 THRU KBU1010

## SINGLE-PHASE SILICON BRIDGE RECTIFIER

REVERSE VOLTAGE: 50 to 1000 V

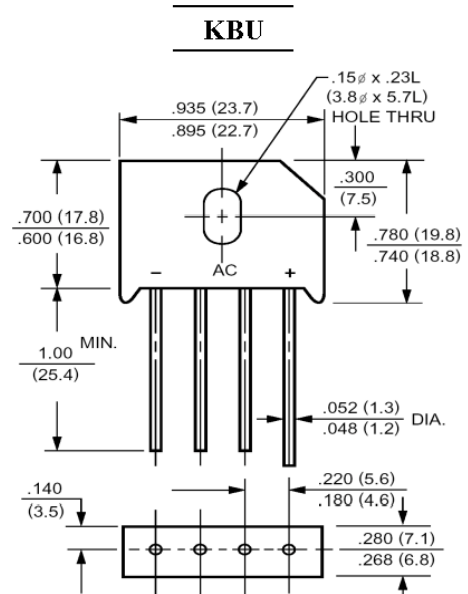
FORWARD CURRENT: 10 A

### Features

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

### Mechanical Data

- Case: Molded plastic, KBU
- Epoxy: UL 94V-0 rate flame retardant
- Terminals: leads solderable per MIL-STD-202, Method 208 guaranteed
- Mounting Position: Any



Dimensions in inches and (millimeters)

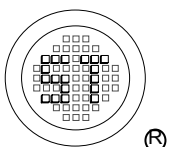
### Absolute Maximum Ratings and Characteristics

Ratings 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	Symbols	KBU10005	KBU1001	KBU1002	KBU1004	KBU1006	KBU1008	KBU1010	Units
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 0.375" (9.5 mm) Lead Length at $T_A = 55^\circ\text{C}$	$I_{(AV)}$	10							A
Peak Forward Surge Current 8.3 ms Single Half-Sine -Wave Superimposed on Rated Load (JEDEC Method)	$I_{FSM}$	300							A
Maximum Forward Voltage at 10 A	$V_F$	1.1							V
Maximum Reverse Current $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A = 100^\circ\text{C}$	$I_R$	10 500							$\mu\text{A}$
Typical Thermal Resistance <sup>1)</sup>	$R_{\theta JA}$	18							$^\circ\text{C/W}$
Typical Thermal Resistance <sup>2)</sup>	$R_{\theta JC}$	3							$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_J, T_S$	- 55 to + 125							$^\circ\text{C}$

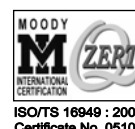
<sup>1)</sup> Units mounted in free air, no heatsink, P.C.B at 0.375" (9.5 mm) lead length with 0.5 X 0.5" (12 X 12 mm) copper pads.

<sup>2)</sup> Units mounted on a 3 X 3 X 0.11" (7.5 X 7.5 X 0.3 cm) thick Al. plate heatsink.



**SEMTECH ELECTRONICS LTD.**

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ISO 9001:2000 Certificate No. 0506098

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

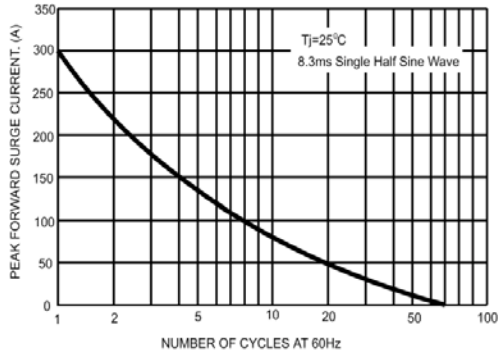


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

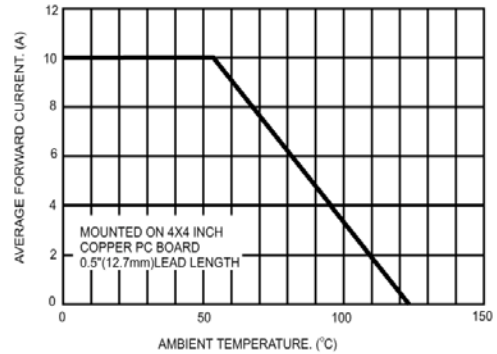


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER BRIDGE ELEMENT

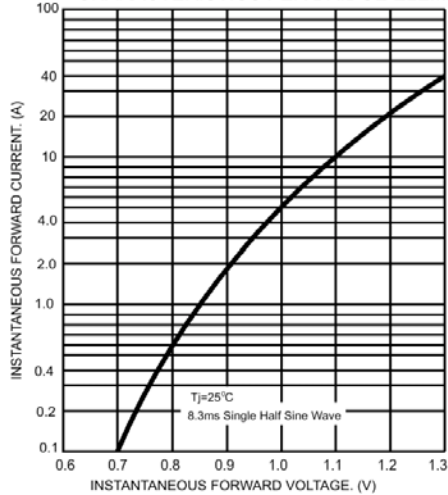
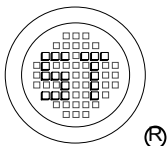
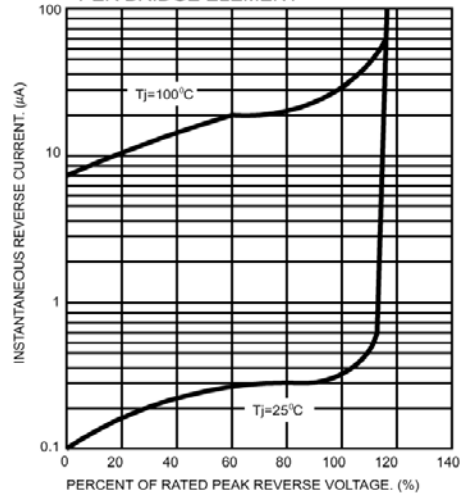


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER BRIDGE ELEMENT



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