

KBPC5000 - KBPC5010

PRV : 50 - 1000 Volts
Io : 50 Amperes

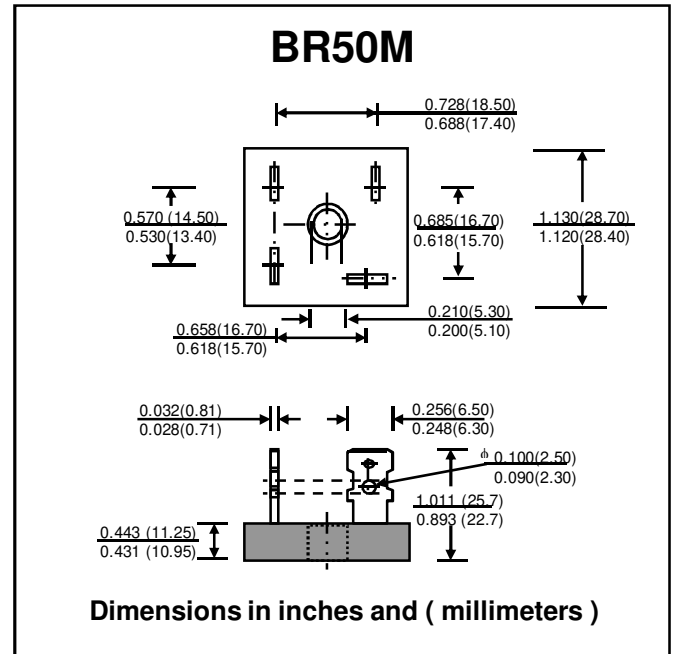
FEATURES :

- * High case dielectric strength
- * High surge current capability
- * High reliability
- * High efficiency
- * Low reverse current
- * Low forward voltage drop
- * **Pb / RoHS Free**

MECHANICAL DATA :

- * Case : Metal Case
- * Epoxy : UL94V-0 rate flame retardant
- * Terminals : plated .25" (6.35 mm). Faston
- * Polarity : Polarity symbols marked on case
- * Mounting position : Bolt down on heat-sink with silicone thermal compound between bridge and mounting surface for maximum heat transfer efficiency.
- * Weight : 17.1 grams

SILICON BRIDGE RECTIFIERS



MAXIMUM RATINGS AND ELECTRICAL 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%.

RATING	SYMBOL	KBPC 5000	KBPC 5001	KBPC 5002	KBPC 5004	KBPC 5006	KBPC 5008	KBPC 5010	UNIT
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 Current $T_c = 55^\circ\text{C}$	$I_{F(AV)}$	50							A
Peak Forward Surge Current Single half sine wave Superimposed on rated load (JEDEC Method)	I_{FSM}	400							A
Current Squared Time at $t < 8.3$ ms.	I^2t	660							A ² S
Maximum Forward Voltage per Diode at $I_F=25$ A	V_F	1.1							V
Maximum DC Reverse Current $T_a = 25^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 100^\circ\text{C}$	I_R	10							μA
	$I_{R(H)}$	500							μA
Typical Thermal Resistance (Note 1)	$R_{\theta JC}$	2.0							$^\circ\text{C/W}$
Operating Junction Temperature Range	T_J	- 40 to + 150							$^\circ\text{C}$
Storage Temperature Range	T_{STG}	- 40 to + 150							$^\circ\text{C}$

Note :

(1) Thermal resistance from Junction to Case with units mounted on a 9"x5"x4.6" (22.9x12.7x11.7 cm) Al-Finned Heatsink.

RATING AND CHARACTERISTIC CURVES (KBPC5000 - KBPC5010)

FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

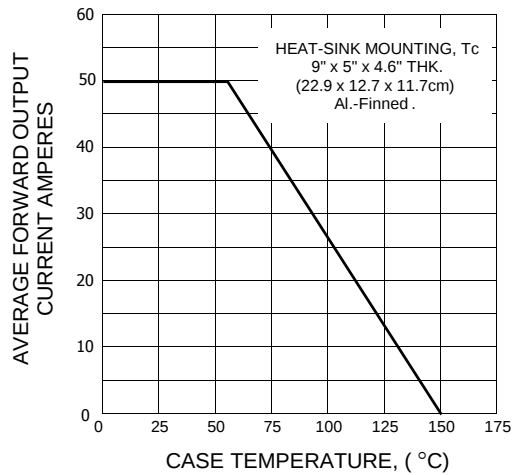


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

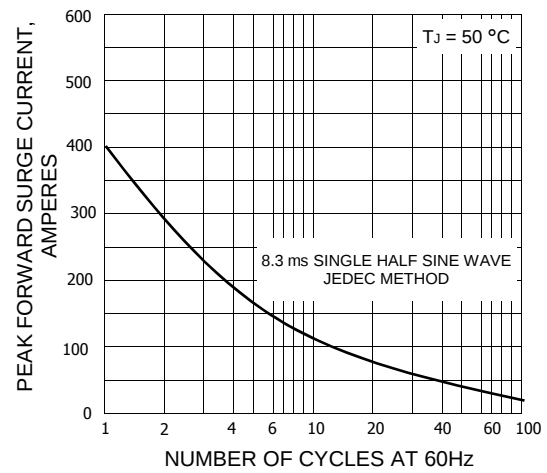


FIG.3 - TYPICAL FORWARD CHARACTERISTICS PER DIODE

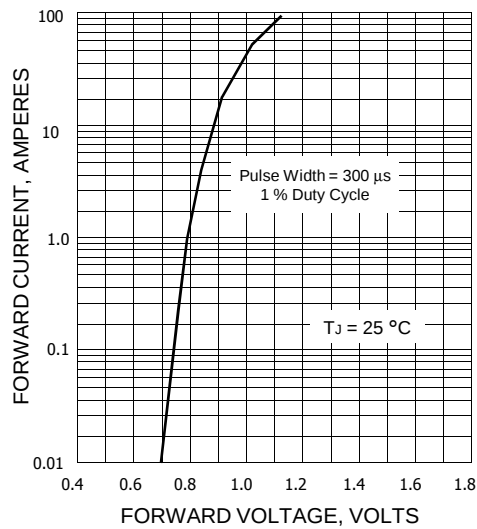


FIG.4 - TYPICAL REVERSE CHARACTERISTICS PER DIODE

