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KBPC5000 - KBPC5010

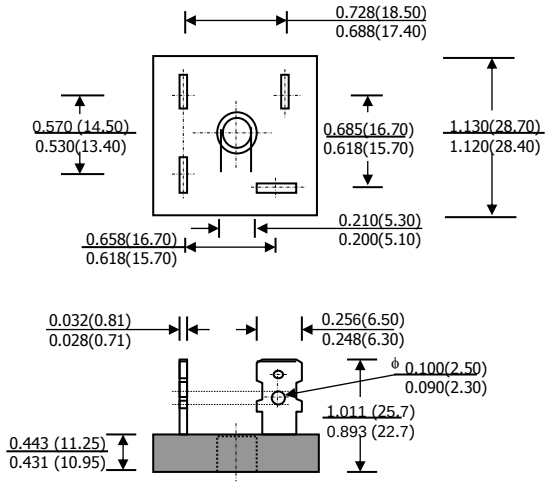
SILICON BRIDGE RECTIFIERS

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

BR50M



Dimensions in inches and (millimeters)

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 Tc = 55°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^2S
Maximum Forward Voltage per Diode at I_F=25 A	V_F	1.1							V
Maximum DC Reverse Current Ta = 25 °C	I_R	10							μA
at Rated DC Blocking Voltage Ta = 100 °C	$I_{R(H)}$	500							μA
Typical Junction Capacitance (Note 1)	C_J	300							pF
Typical Thermal Resistance (Note 2)	RθJC	2.0							°C/W
Operating Junction Temperature Range	T_J	- 40 to + 150							°C
Storage Temperature Range	T_{STG}	- 40 to + 150							°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.

(2) Measured at 1.0 MHz and applied reverse volage of 4.0V DC.

RATING AND CHARACTERISTIC CURVES (KBPC50000 - KBPC5010)

FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

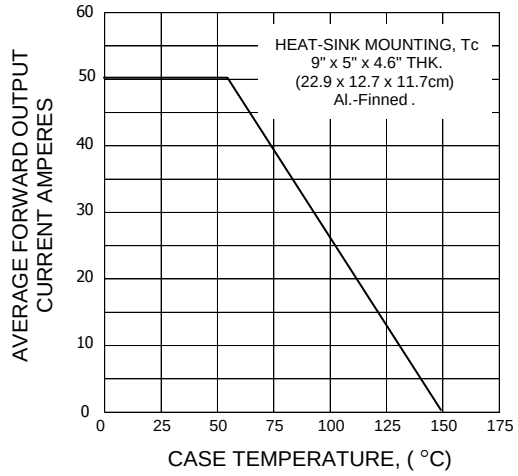


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

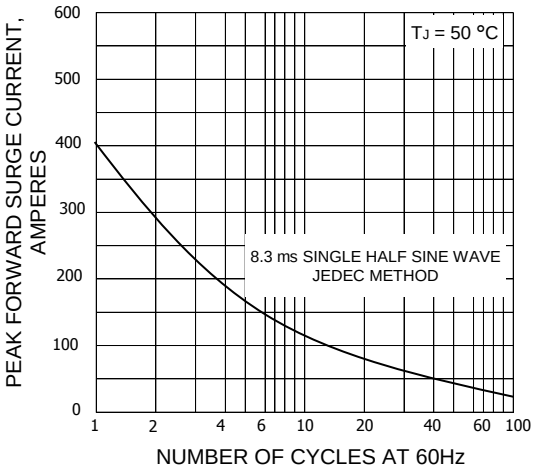


FIG.3 - TYPICAL FORWARD CHARACTERISTICS PER DIODE

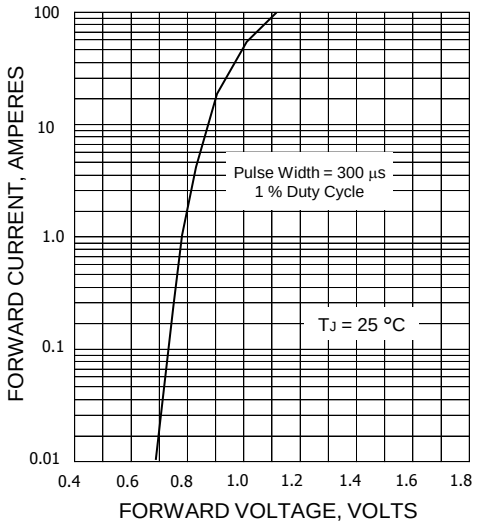


FIG.4 - TYPICAL REVERSE CHARACTERISTICS PER DIODE