DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

KBPC 50005 / MB 5005
THRU
KBPC 5010 / MB 5010

TECHNICAL SPECIFICATIONS OF SINGLE-PHASE SILICON BRIDGE RECTIFIER

VOLTAGE RANGE - 50 to 1000 Volts *CURRENT - 50 Amperes*

FEATURES

* Metal case for Maximum Heat Dissipation
* Surge overload ratings-400 Amperes
* Low forward voltage drop

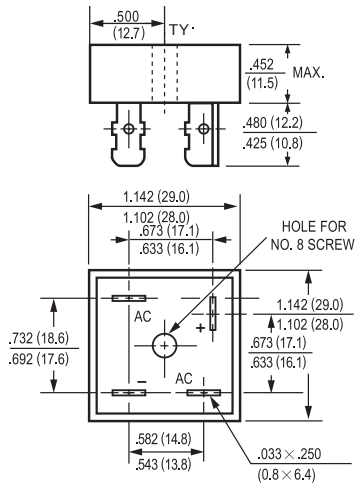
MECHANICAL DATA

* Case: Metal, electrically isolated
* Epoxy: UL 94V-0 rate flame retardant
* Terminals: Plated .25"(6.35mm) Faston lugs, solderable per MIL-STD-202E, Method 208 guaranteed
* Polarity: As marked
* Mounting position: Any
* Weight: 30 grams

MAXIMUM RATINGS AND ELECTRICAL 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%.

MB-25



Dimensions in inches and (millimeters)

		SYMBOL	KBPC 50005 MB5005	KBPC 5001 MB501	KBPC 5002 MB502	KBPC 5004 MB504	KBPC 5006 MB506	KBPC 5008 MB508	KBPC 5010 MB5010	UNITS
Maximum Recurrent Peak Reverse Voltage		V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS Bridge Input Voltage		V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage		V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Output Current at Tc = 55°C		I_O	50							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)		I_{FSM}	400							Amps
Maximum Forward Voltage Drop per element at 25A DC		V_F	1.1							Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage per element	@T_A = 25°C	I_R	10							uAmps
	@T_A = 100°C		500							
I^2t Rating for Fusing (t<8.3ms)		I^2t	664							A^2Sec
Typical Junction Capacitance (Note1)		C_J	300							pF
Typical Thermal Resistance (Note 2)		$R\theta JC$	2.0							°C/W
Operating and Storage Temperature Range		T_J, T_{STG}	-55 to + 150							°C

NOTES : 1.Measured at 1 MHz and applied reverse voltage of 4.0 volts
2. Thermal Resistance from Junction to Case per leg.

FIG. 1 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

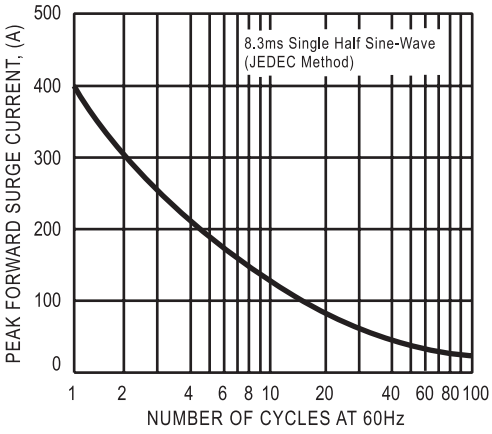


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

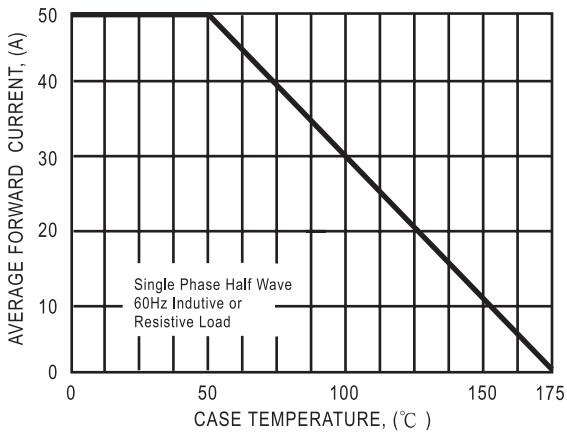


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

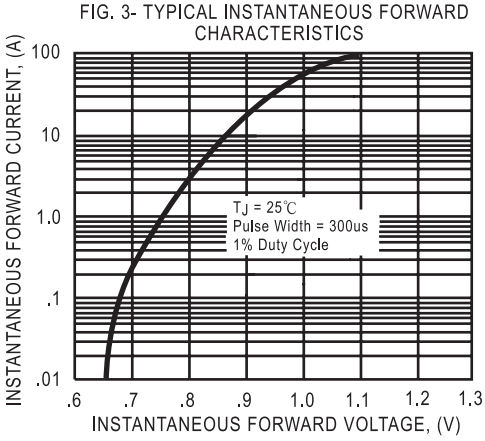
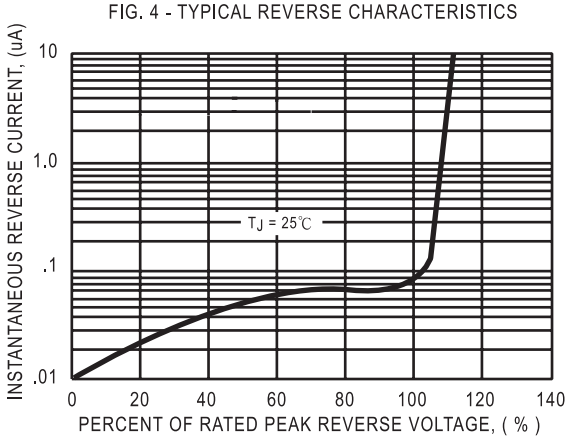



FIG. 4 - TYPICAL REVERSE CHARACTERISTICS