



# DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

KBPC / MB  
50005 / 5005  
THRU  
KBPC / MB  
5010 / 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

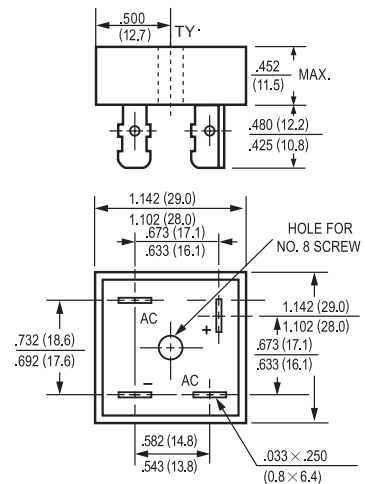
- \* Case: Metal, electrically isolated
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Terminals: Plated .25" (6.35mm) Faston lugs, solderable per MIL-STD-202E, Method 208 guaranteed
- \* Polarity: As marked
- \* Mounting position: Any
- \* Weight: 30 grams

### 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)

		KBPC 50005	KBPC 5001	KBPC 5002	KBPC 5004	KBPC 5006	KBPC 5008	KBPC 5010	
	SYMBOL	MB5005	MB501	MB502	MB504	MB506	MB508	MB5010	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	Volts
Maximum RMS Bridge Input Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Output Current at T <sub>c</sub> = 55°C	I <sub>o</sub>	50							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	400							Amps
Maximum Forward Voltage Drop per element at 25A DC	V <sub>F</sub>	1.1							Volts
Maximum DC Reverse Current at Rated	I <sub>R</sub>	@T <sub>A</sub> = 25°C							uAmps
DC Blocking Voltage per element		@T <sub>A</sub> = 100°C							
I <sup>2</sup> t Rating for Fusing (t<8.3ms)	I <sup>2</sup> t	664							A <sup>2</sup> Sec
Typical Junction Capacitance ( Note1)	C <sub>J</sub>	300							pF
Typical Thermal Resistance ( Note 2)	R <sub>θJC</sub>	2.0							°C/W
Operating and Storage Temperature Range	T <sub>J</sub> ,T <sub>STG</sub>	-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.

RATING AND CHARACTERISTIC CURVES

( KBPC50005 THRU KBPC5010  
MB5005 MB5010 )

FIG. 1 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

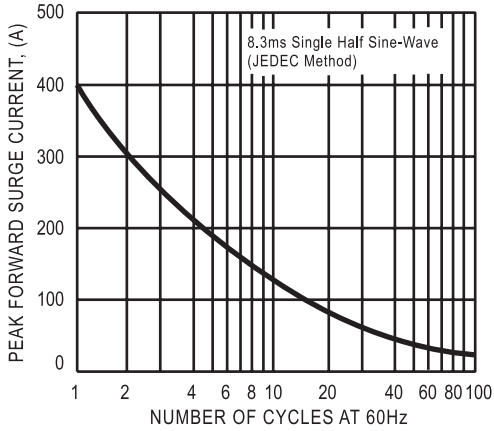


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

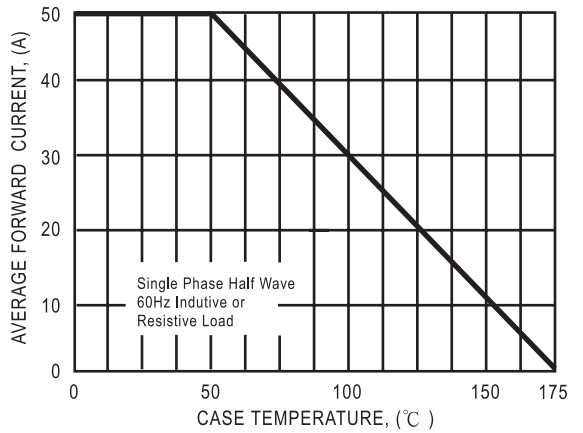
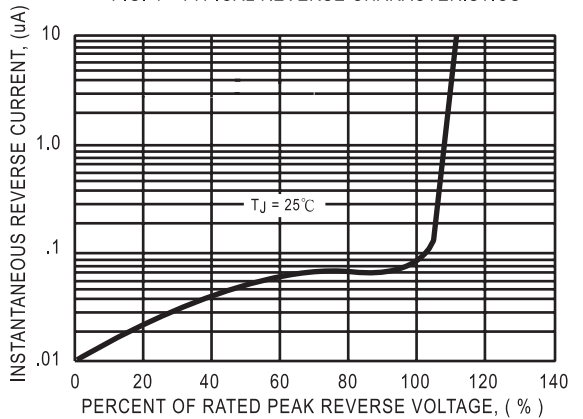


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



FIG. 4 - TYPICAL REVERSE CHARACTERISTICS



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