



# DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

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

## 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

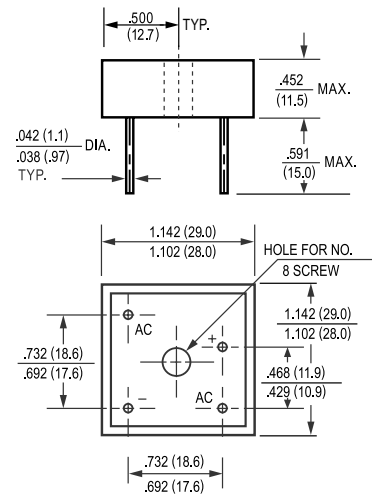
- \* Case: Metal, electrically isolated
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Lead: MIL-STD-202E, Method 208 guaranteed
- \* Polarity: As marked
- \* Mounting position: Any
- \* Weight: 30 grams

### 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-25W



Dimensions in inches and (millimeters)

		KBPC 50005W	KBPC 5001W	KBPC 5002W	KBPC 5004W	KBPC 5006W	KBPC 5008W	KBPC 5010W		
	SYMBOL	MB5005W	MB501W	MB502W	MB504W	MB506W	MB508W	MB5010W	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>	10				500				uAmps
DC Blocking Voltage per element										
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

( KBPC50005W THRU KBPC5010W  
MB5005W MB5010W )

FIG. 1 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

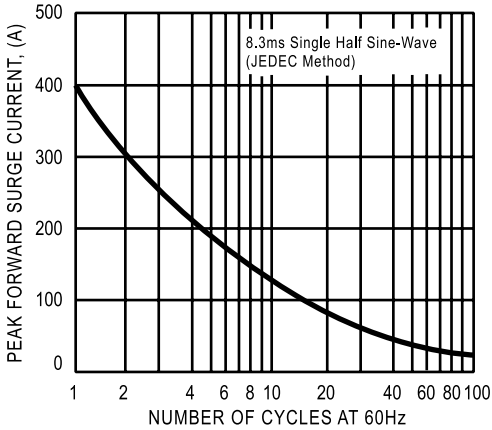


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

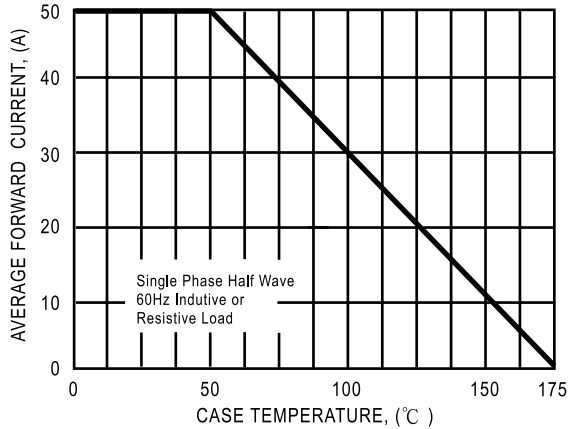


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

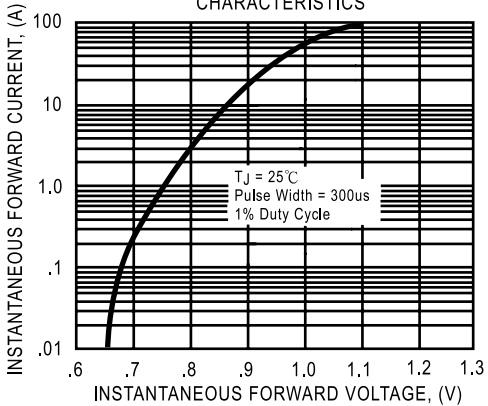
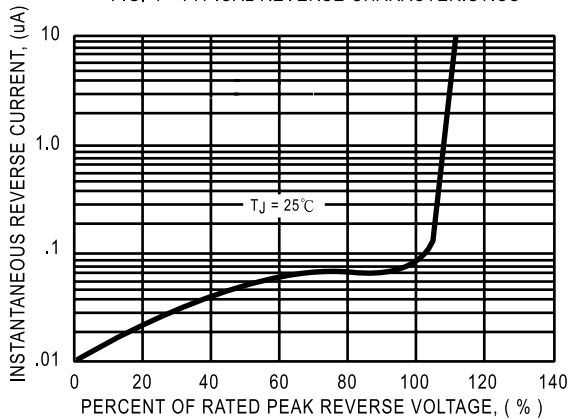


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS



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