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# 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

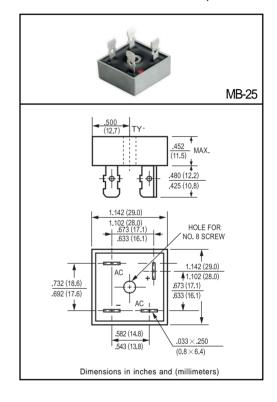
MIL-STD-202E, Method 208 guaranteed

\* Polarity: As marked \* Mounting position: Any \* Weight: 30 grams

#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25  $^{\circ}\text{C}$  ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%.



			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		VRRM	50	100	200	400	600	800	1000	Volts
Maximum RMS Bridge Input Voltage		VRMS	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage		VDC	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Output Current at Tc = 55°C		lo	50							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)		IFSM	400						Amps	
Maximum Forward Voltage Drop per element at 25A DC		VF	1.1						Volts	
Maximum DC Reverse Current at Rated	@TA = 25°C	- IR	10							uAmps
DC Blocking Voltage per element	@T <sub>A</sub> = 100°C	] IR	500							
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)		CJ	300							pF
Typical Thermal Resistance (Note 2)		RθJC	2.0							°C/W
Operating and Storage Temperature Range		TJ,TSTG	-55 to + 150							٥C

NOTES : 1.Measured at 1  $\mbox{MHz}\xspace$  and applied reverse voltage of 4.0 volts

2. Thermal Resistance from Junction to Case per leg.

KBPC50005 THRU KBPC5010 MB5010

FIG. 1 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

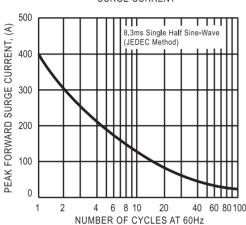


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE 50 AVERAGE FORWARD CURRENT, (A) 40 30 20 Single Phase Half Wave 60Hz Indutive or 10 Resistive Load 0 0 50 100 150 175 CASE TEMPERATURE, (°C )

FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

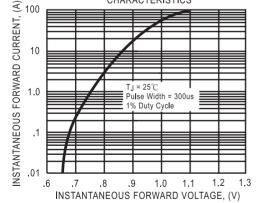
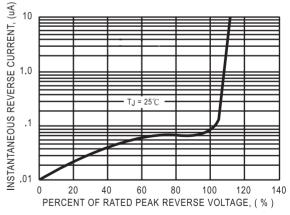


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS





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