



MASTER INSTRUMENT CORPORATION

SINGLE-PHASE BRIDGE RECTIFIER
MB2505 THRU MB2510
KBPC25005 THRU KBPC2510

VOLTAGE RANGE 50 to 1000 Volts
CURRENT 25 Amperes

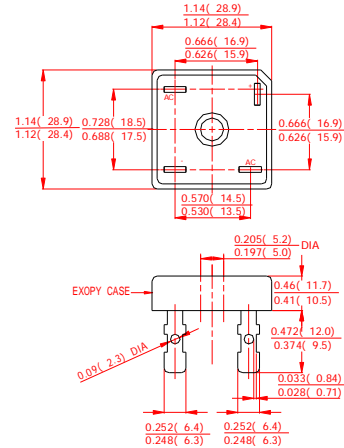
FEATURES

- I Low cost
- I This series is UL recognized under component index, file number E127707
- I High forward surge current capability
- I Ideal for printed circuit board
- I High isolation voltage from case to leads
- I High temperature soldering guaranteed: 260°C/10 second, at 5 lbs. (2.3kg) tension.

MECHANICAL DATA

- I Case: Molded plastic body
- I Terminal: Plated 0.25" (6.35mm) lug.
- I Polarity: Polarity symbols marked on case
- I Mounting: Thru hole for #10 screw, 20 in.-lbs torque max.
- I Weight: 1.02 ounce, 29 grams

MB-35



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.
 Single phase, half wave, 60Hz, resistive or inductive load.
 For capacitive load derate current by 20%.

	SYMBOLS	MB2505 KBPC25005	MB251 KBPC2501	MB252 KBPC2502	MB254 KBPC2504	MB256 KBPC2506	MB258 KBPC2508	MB2510 KBPC2510	UNITS
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS 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 $T_C=55^\circ\text{C}$ (Note 1,2)	$I_{(AV)}$	25							Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	300							Amps
Rating for Fusing ($t < 8.3\text{ms}$)	I^2T	373							A^2S
Maximum Instantaneous Forward Voltage at 12.5A	V_F	1.1							Volts
Maximum DC Reverse Current at rated DC blocking voltage	$T_A=25^\circ\text{C}$	10							μAmps
	$T_A=100^\circ\text{C}$	1.0							mAmps
Isolation Voltage from case to lugs	V_{ISO}	2500							V_{AC}
Typical Thermal Resistance (Note 1,2)	$R_{\theta JC}$	2.0							$^\circ\text{C}/\text{W}$
Operating Temperature Range	T_J	-55 to +150							$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150							$^\circ\text{C}$

NOTES:

1. Unit mounted on 5"×6"×4.9" (12.8×15.2×12.4mm) Al. finned plate.
2. Bolt down on heat-sink with silicone thermal compound between bridge and mounting surface for maximum heat transfer efficiency with #10 screw.



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RATINGS AND CHARACTERISTIC CURVES MB2505 THRU MB2510

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

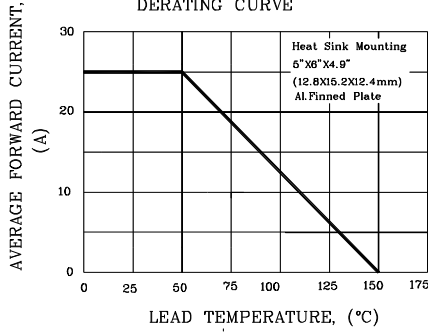


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

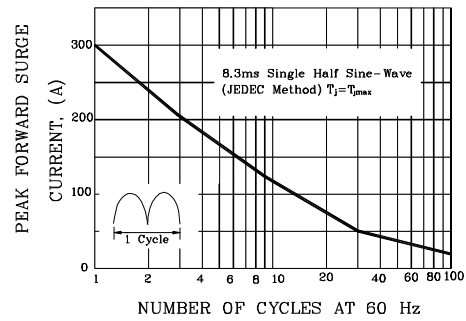


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

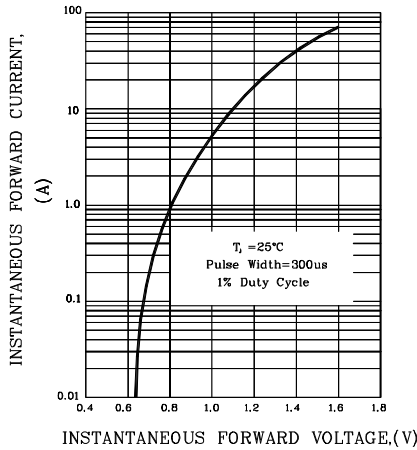


FIG.4-TYPICAL REVERSE CHARACTERISTICS

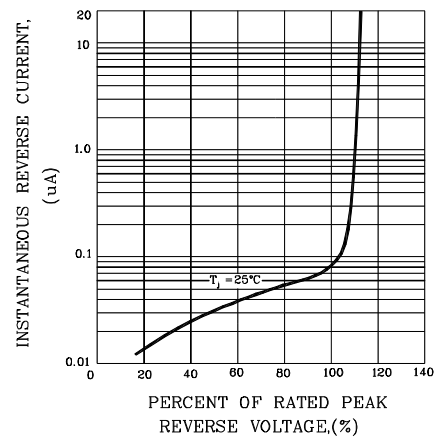


FIG.5-TYPICAL JUNCTION CAPACITANCE

