



MASTER INSTRUMENT CORPORATION

SINGLE-PHASE BRIDGE RECTIFIER BR5005 THRU BR5010

VOLTAGE RANGE 50 to 1000 Volts
CURRENT 50 Amperes

FEATURES

- Low cost
- This series is UL recognized under component index, file number E127707
- High forward surge current capability
- Integrally molded heatsink provide very low thermal resistance
- High isolation voltage from case to leads
- High temperature soldering guaranteed: 260 °C/10 second, at 5 lbs. (2.3kg) tension.

MECHANICAL DATA

- Case: Molded plastic body
- Terminal: Plated lead 0.25"(6.35mm) lugs.
- Polarity: Polarity symbols marked on case
- Mounting: Thru hole for #10 screw, 20 in.-lbs torque max.
- Weight: 0.55ounce, 15.6 grams

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	BR5005	BR501	BR502	BR504	BR506	BR508	BR5010	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 $T_C=55^{\circ}\text{C}$ (See FIG.1)	I_{AO}	50							Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	400							Amps
Rating for Fusing ($t < 8.3\text{ms}$)	I^2T	1037							A^2S
Maximum Instantaneous Forward Voltage at 25.0A	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 leads	V_{BO}	2500							V_{AC}
Typical Thermal Resistance (Note 1,2)	$R_{\theta JC}$	2.0							$^{\circ}\text{C/W}$
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 9"×3.5"×4.6" thick (23cm×9cm×11.8cm) AL 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 BR5005 THRU BR5010

FIG.1-TYPICAL FORWARD CURRENT
DERATING CURVE

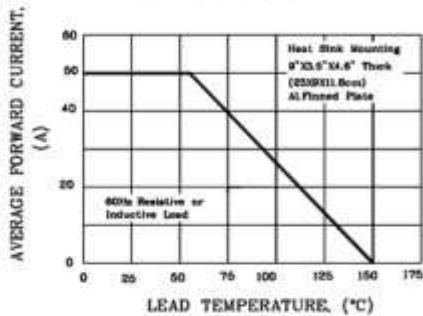


FIG.2-MAXIMUM NON-REPETITIVE PEAK
FORWARD SURGE CURRENT

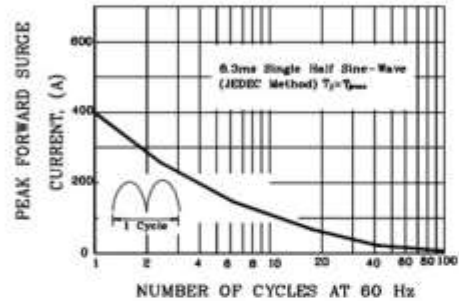


FIG.3-TYPICAL INSTANTANEOUS
FORWARD CHARACTERISTICS

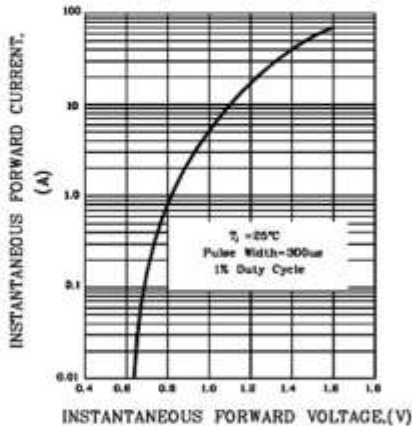


FIG.4-TYPICAL REVERSE
CHARACTERISTICS

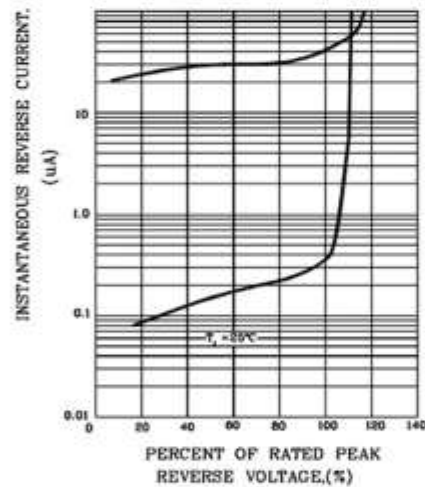
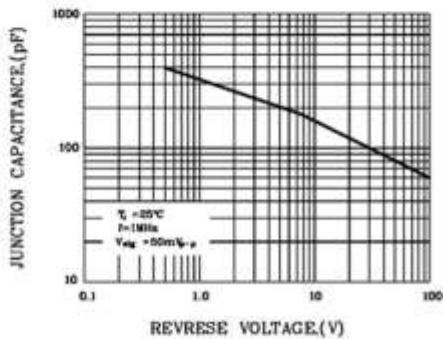


FIG.5-TYPICAL JUNCTION CAPACITANCE



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