



## MASTER INSTRUMENT CORPORATION

### SINGLE-PHASE BRIDGE RECTIFIER BR2505 THRU BR2510

**VOLTAGE RANGE** 50 to 1000 Volts  
**CURRENT** 25 Amperes

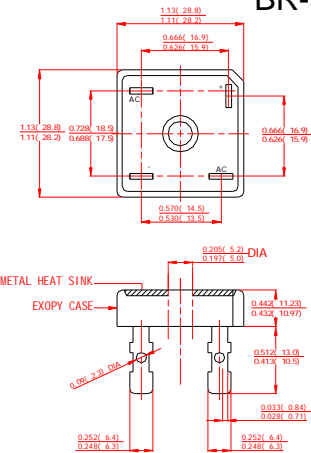
#### FEATURES

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

#### MECHANICAL DATA

- l Case: Molded plastic body
- l Terminal: Lead solderable per MIL-STD-202E method 208C.
- l Polarity: Polarity symbols molded on case
- l Mounting: Thru hole for #6 screw, 5.0 in.-lbs torque max.
- l Weight: 0.66ounce, 18.7 grams

**BR-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	BR2505	BR251	BR252	BR254	BR256	BR258	BR2510	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 $T_C=50^\circ\text{C}$ (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							$\text{A}^2\text{S}$
Maximum Instantaneous Forward Voltage at 12.5A	$V_F$	1.1							Volts
Maximum DC Reverse Current at rated DC blocking voltage	$I_R$	$T_A=25^\circ\text{C}$							$\mu\text{Amps}$
		$T_A=150^\circ\text{C}$							mAmps
Isolation Voltage from case to leads	$V_{ISO}$	2500							$V_{AC}$
Typical Thermal Resistance (Note 1)	$R_{\theta JC}$	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" thick (12.8mm×15.2mm×12.4mm) 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 BR2505 THRU BR2510

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

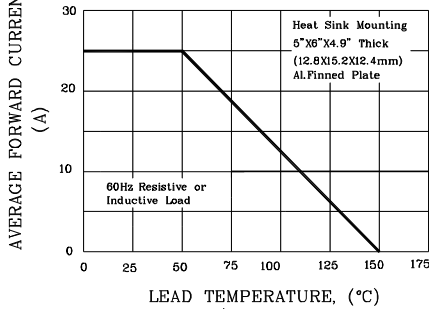


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

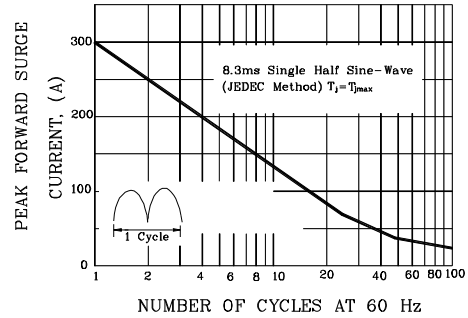


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

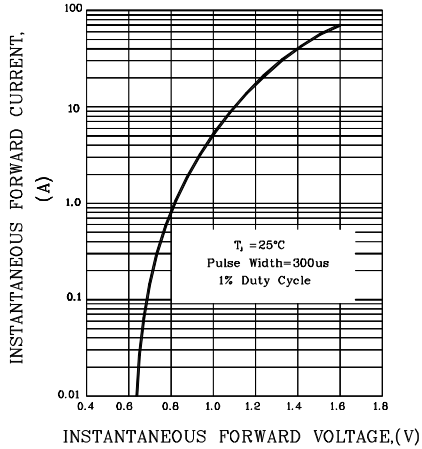


FIG.4-TYPICAL REVERSE CHARACTERISTICS

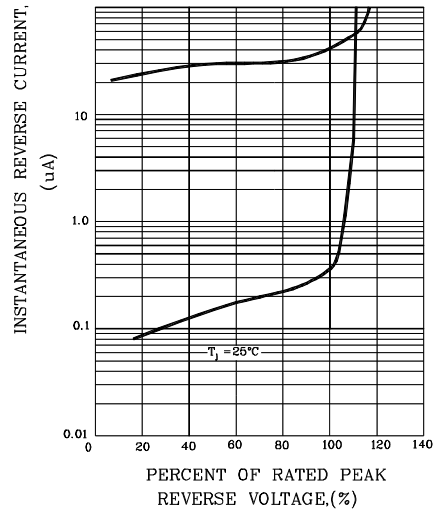


FIG.5-TYPICAL JUNCTION CAPACITANCE

