



**MASTER INSTRUMENT CORPORATION**

**SINGLE-PHASE BRIDGE RECTIFIER  
MB4005 THRU MB4010**

**VOLTAGE RANGE 50 to 1000 Volts  
CURRENT 40 Amperes**

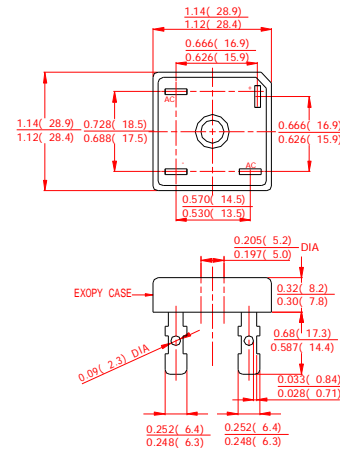
**FEATURES**

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

**MECHANICAL DATA**

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

**MB-35N**



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	MB4005	MB401	MB402	MB404	MB406	MB408	MB4010	UNITS	
Maximum Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	Volts	
Maximum RMS 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 (See FIG.1)	I <sub>(AV)</sub>	40								Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	400								Amps
Rating for Fusing (t<8.3ms)	I <sup>2</sup> T	664								A <sup>2</sup> S
Maximum Instantaneous Forward Voltage at 20.0A	V <sub>F</sub>	1.1								Volts
Maximum DC Reverse Current at rated DC blocking voltage	T <sub>A</sub> =25°C	10								μAmps
	T <sub>A</sub> =100°C	1.0								mAmps
Isolation Voltage from case to lugs	V <sub>ISO</sub>	2500								V <sub>AC</sub>
Typical Thermal Resistance (Note 1,2)	R <sub>θJC</sub>	1.4								°C/W
Operating Temperature Range	T <sub>J</sub>	-55 to +150								°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150								°C

**NOTES:**

1. Unit mounted on 9"×3.5"×4.6" (23×9×11.8cm) 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 MB4005 THRU MB4010

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

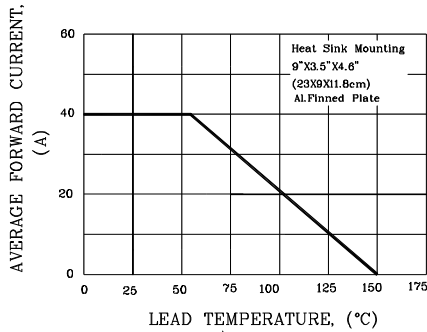


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

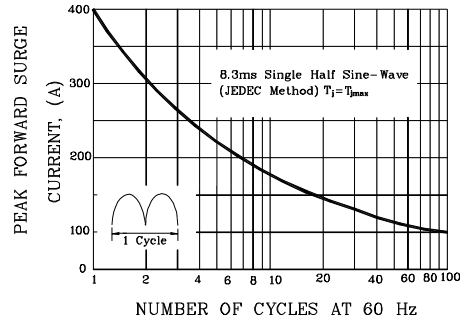


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

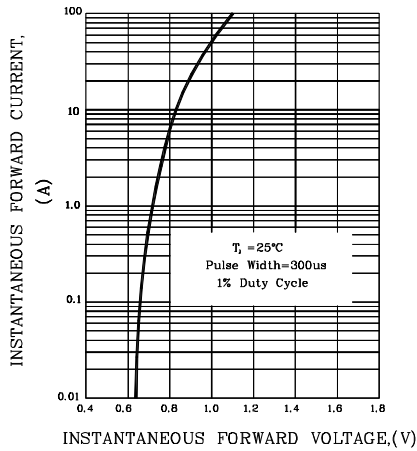


FIG.4-TYPICAL REVERSE CHARACTERISTICS

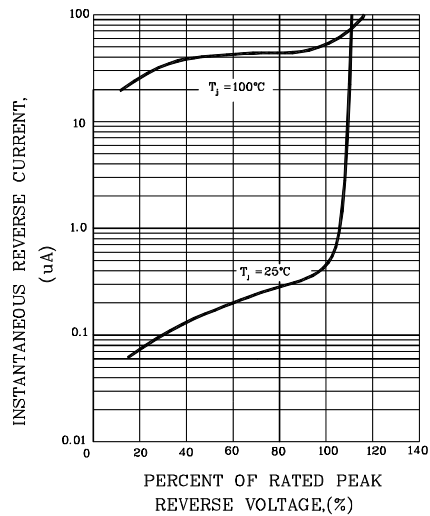


FIG.5-TYPICAL JUNCTION CAPACITANCE

