



## MASTER INSTRUMENT CORPORATION

### SINGLE-PHASE BRIDGE RECTIFIER BRS1005 THRU BRS1010

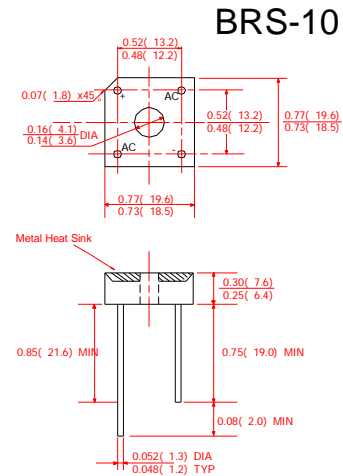
**VOLTAGE RANGE** 50 to 1000 Volts  
**CURRENT** 10 Amperes

#### 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: Lead solderable per MIL-STD-202E method 208C.
- l Polarity: Polarity symbols molded on case
- l Mounting: Thru hole for #6 screw, 5 in.-lbs torque max.
- l Weight: 0.20ounce, 5.62 grams



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	BRS1005	BRS101	BRS102	BRS104	BRS106	BRS108	BRS1010	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	$T_C=55^\circ\text{C}$ (Note1)	10.0							Amps
	$T_C=90^\circ\text{C}$ (Note1)	5.0							
	$T_A=50^\circ\text{C}$ (Note2)	6.0							
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	150							Amps
Rating for Fusing ( $t < 8.3\text{ms}$ )	$I^2T$	93							$\text{A}^2\text{S}$
Maximum Instantaneous Forward Voltage at 5.0A	$V_F$	1.1							Volts
Maximum DC Reverse Current at rated DC blocking voltage	$T_A=25^\circ\text{C}$	5.0							$\mu\text{Amps}$
	$T_A=150^\circ\text{C}$	1.0							mAmps
Isolation Voltage from case to leads	$V_{ISO}$	2500							$\mu\text{Amps}$
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	13							$^\circ\text{C}/\text{W}$
Typical Thermal Resistance (Note 1)	$R_{\theta JC}$	5							$^\circ\text{C}/\text{W}$
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 8.7"×8.7"×0.24" thick (22×22×0.6 cm) Al. plate.
2. Unit mounted on P.C.B at 0.375" (9.5mm) lead length with 0.47"×0.47" (12×12mm) copper pads.



# MASTER INSTRUMENT CORPORATION

**SINGLE-PHASE BRIDGE RECTIFIER  
BRS1005 THRU BRS1010**

**VOLTAGE RANGE 50 to 1000 Volts  
CURRENT 10 Amperes**

## RATINGS AND CHARACTERISTIC CURVES BRS1005 THRU BRS1010

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

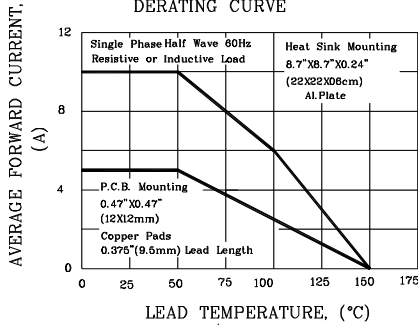


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

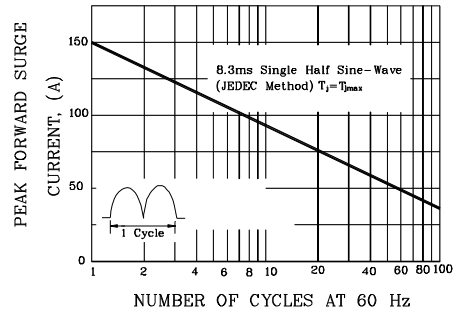


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

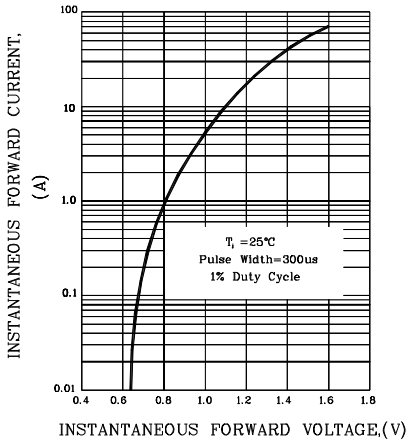


FIG.4-TYPICAL REVERSE CHARACTERISTICS

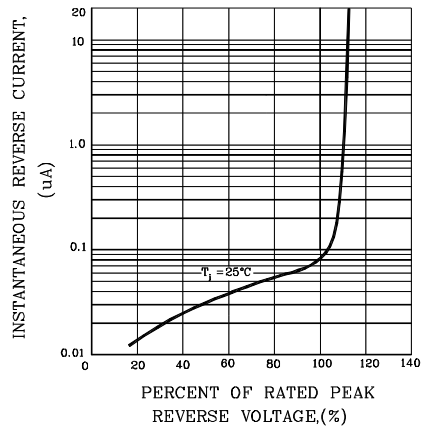


FIG.5-TYPICAL JUNCTION CAPACITANCE

