



## MASTER INSTRUMENT CORPORATION

### THREE-PHASE BRIDGE RECTIFIER MT3508 THRU MT3516

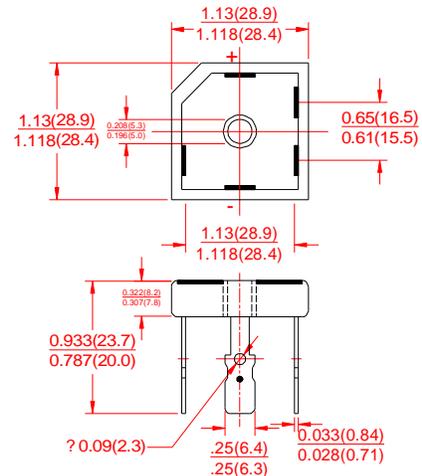
**VOLTAGE RANGE** 800 to 1600 Volts  
**CURRENT** 35 Amperes

#### FEATURES

- I Integrally molding heatsinks provide very low thermal resistance for maximum heat dissipation
- I Surge overload rating to 400 amperes
- I High temperature soldering guaranteed:  
260 °C/10 second, at 5 lbs. (2.3kg) tension.

#### MECHANICAL DATA

- I Case: Epoxy, molded plastic with heatsink integrally mounted in the bridge encapsulation.
- I Mounting Position: Bolt down on heatsink with silicone thermal compound between bridge and mounting surface for maximum heat transfer efficiency
- I Mounting Torque: 20 in. lbs max.
- I Weight: 0.706 ounce, 20 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	MT3508	MT3512	MT3516	UNITS
Peak Repetitive Reverse Voltage	$V_{RRM}$	800	1200	1600	Volts
Working Peak Reverse Voltage	$V_{RWM}$	800	1200	1600	Volts
Maximum DC Blocking Voltage	$V_{DC}$	800	1200	1600	Volts
Maximum Average Forward Rectified Output Current, at $T_C=55^\circ\text{C}$ (Note 2)	$I_{(AV)}$		35		Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$		400		Amps
Rating for Fusing ( $t < 8.3\text{ms}$ )	$I^2T$		1030		$\text{A}^2\text{S}$
Maximum Instantaneous Forward Voltage drop per Bridge element at 17.5A	$V_F$		1.2		Volts
Maximum DC Reverse Current at rated DC blocking voltage per element $T_A=25^\circ\text{C}$	$I_R$		5.0		$\mu\text{Amps}$
Isolation Voltage from case to leads	$V_{ISO}$		2500		$V_{AC}$
Typical Thermal Resistance per Element	$R_{\theta JC}$		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. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts.
2. Unit mounted on 11.8"×11.8"×0.6" thick (300×300×15mm) Copper plate.



## MASTER INSTRUMENT CORPORATION

**THREE-PHASE BRIDGE RECTIFIER  
MT3508 THRU MT3516**

**VOLTAGE RANGE 800 to 1600 Volts  
CURRENT 35 Amperes**

### RATINGS AND CHARACTERISTIC CURVES MT3508 THRU MT3516

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

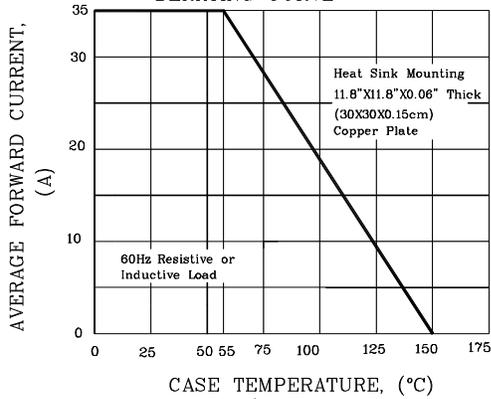


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

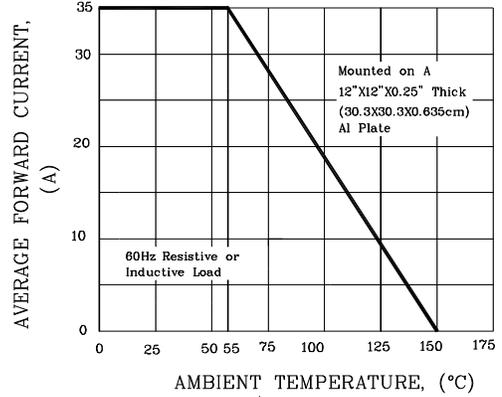


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

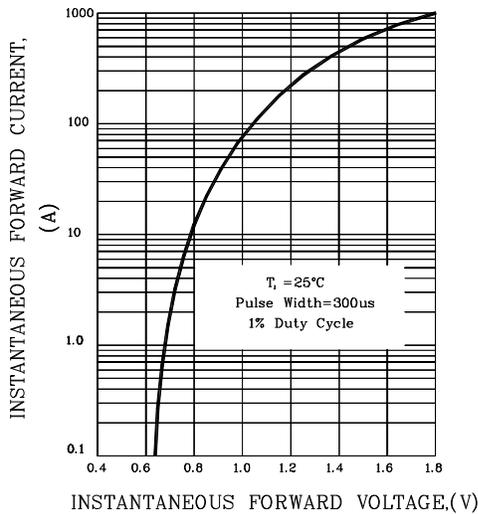


FIG.4-MAXIMUM POWER DISSIPATION

