DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

BR5005 THRU BR5010

TECHNICAL SPECIFICATIONS OF SINGLE-PHASE SILICON BRIDGE RECTIFIER

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

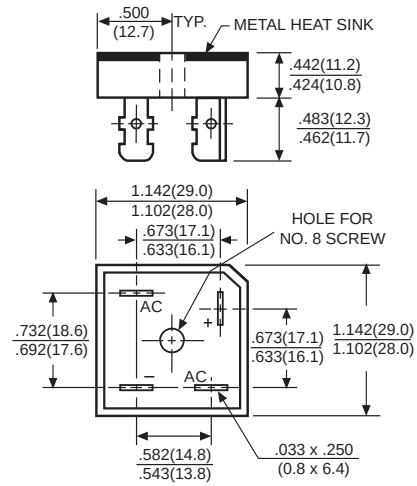
FEATURES

* Plastic case with heatsink for Maximum Heat Dissipation
* Surge overload ratings - 400 Amperes
* Low forward voltage drop

MECHANICAL DATA

* Case: Molded plastic with heatsink
* Epoxy: UL 94V-0 rate flame retardant
* Terminals: Plated .25"(6.35mm) Faston lugs, Solderable per MIL-STD-202E, Method 208 guaranteed
* Polarity: As marked
* Mounting position: Any
* Weight: 30 grams

BR-25



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

		SYMBOL	BR5005	BR501	BR502	BR504	BR506	BR508	BR5010	UNITS
Maximum Recurrent Peak Reverse Voltage		V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS Bridge Input 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 Tc = 50°C		I_O	50							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)		I_{FSM}	500							Amps
Maximum Forward Voltage Drop per element at 7 .5A DC		V_F	1.1							Volts
Maximum DC Reverse Current at Rated	@T_A = 25°C	I_R	10							μAmps
DC Blocking Voltage per element	@T_A = 100°C		500							
I^2t Rating for Fusing (t<8.3ms)		I^2t	664							A^2Sec
Typical Junction Capacitance (Note1)		C_J	300							pF
Typical Thermal Resistance (Note 2)		RθJC	2.0							°C/W
Operating and Storage Temperature Range		T_J,T_{STG}	-55 to +175							°C

NOTES : 1.Measured at 1 MHz and applied reverse voltage of 4.0 volts
2.Thermal Resistance from Junction to Case per leg.

RATING AND CHARACTERISTIC CURVES (BR5005 THRU BR5010)

FIG. 1 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

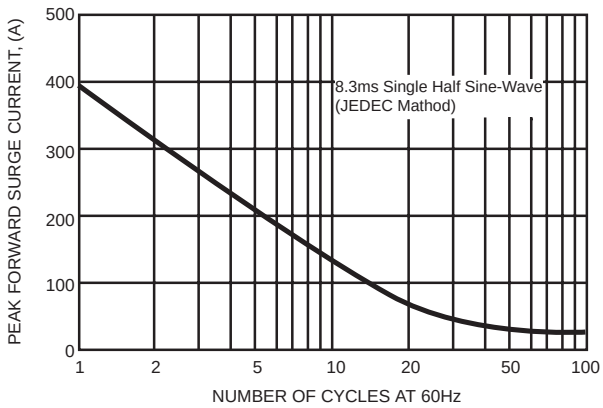


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

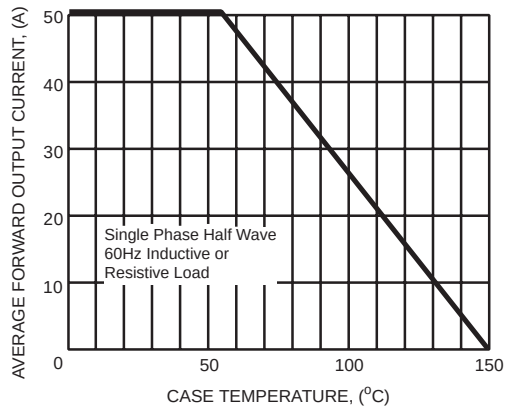


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

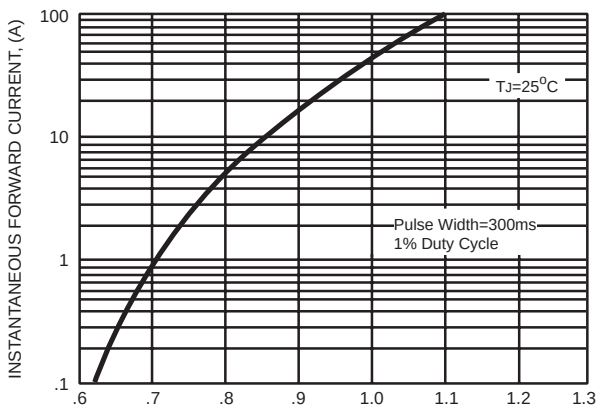


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS