

**SINGLE-PHASE GLASS PASSIVATED
MINI SUPER FAST SURFACE MOUNT BRIDGE RECTIFIER
VOLTAGE RANGE 50 to 200 Volts CURRENT 0.5 Ampere**

FEATURES

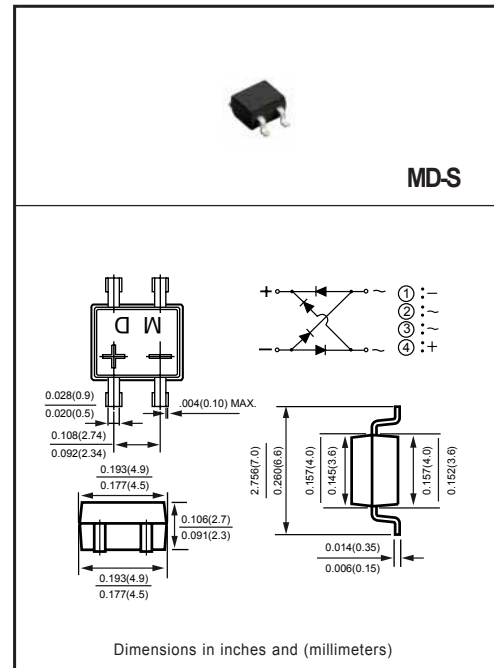
- * Surge overload rating - 20 amperes peak
- * Ideal for printed circuit board
- * Reliable low cost construction utilizing molded
- * Glass passivated device
- * Polarity symbols molded on body
- * Mounting position: Any
- * Weight: 0.5 gram

MECHANICAL DATA

- * Epoxy: Device has UL flammability classification 94V-O

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%.



MAXIMUM RATINGS (At $T_A = 25^\circ\text{C}$ unless otherwise noted)

RATINGS	SYMBOL	EMD1S	EMD2S	EMD3S	EMD4S	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	150	200	Volts
Maximum RMS Bridge Input Voltage	V_{RMS}	35	70	105	140	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	150	200	Volts
Maximum Average Forward Output Current at $T_A = 30^\circ\text{C}$ -on glass-epoxy P.C.B. (Note 2) -on aluminum substrate (Note 3)	I_O	0.5 0.8				Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	20				Amps
Typical Junction Capacitance (Note 4)	C_J	15				pF
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to + 150				$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS (At $T_A = 25^\circ\text{C}$ unless otherwise noted)

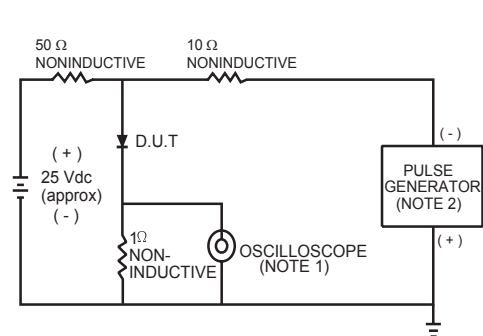
CHARACTERISTICS	SYMBOL	EMD1S	EMD2S	EMD3S	EMD4S	UNITS
Maximum Forward Voltage Drop per Bridge Element at 0.5A DC	V_F	1.05				Volts
Maximum Reverse Current at Rated DC Blocking Voltage per element	I_R	10 0.5				μAmps mAmps
Maximum Reverse Recovery Time (Note 5)	t_{rr}	50				nS

Note: 1. "Fully ROHS compliant", "100% Sn plating(Pb-free).

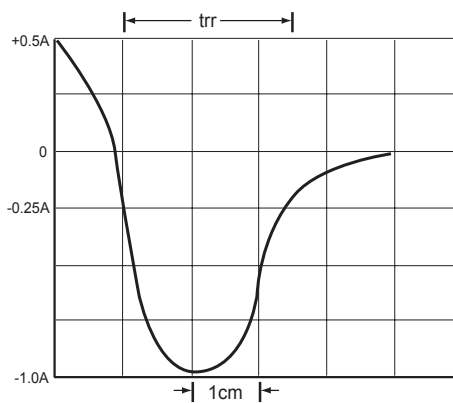
2. On glass-epoxy P.C.B. mounted on 0.05 X 0.05" (1.3 X 1.3mm) pads.
3. On aluminum substrate P.C.B. with an area of 0.8 X 0.8 X 0.25" (20 X 20 X 6.4mm) mounted on 0.05 X 0.05" (1.27 X 1.27mm) solder pad.
4. Measure at 1MHz and applied reverse voltage of 4.0 volts.
5. Test Condition : $I_F=0.5\text{A}$, $I_R= -1.0\text{A}$, $I_{RR}= -0.25\text{A}$.

2007-08

RATING AND CHARACTERISTICS CURVES (EMD1S THRU EMD4S)



NOTES: 1 Rise Time = 7ns max. Input Impedance = 1 megohm. 22pF.
2. Rise Time = 10ns max. Source Impedance = 50 ohms.



SET TIME BASE FOR 20/1 ns/cm

FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

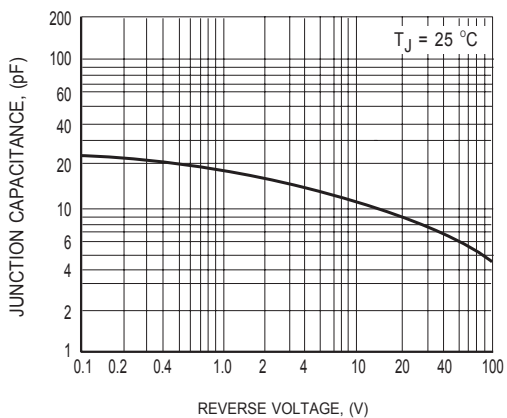


FIG.2 TYPICAL JUNCTION CAPACITANCE

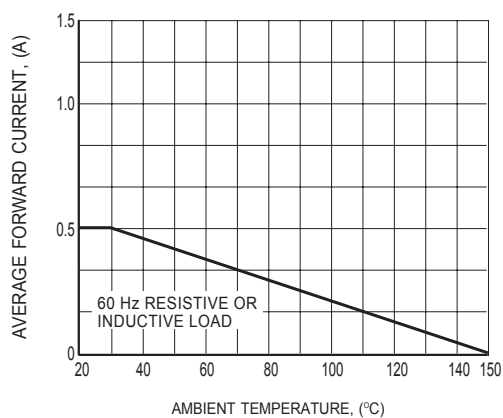


FIG.3 TYPICAL FORWARD CURRENT DERATING CURVE

RATING AND CHARACTERISTICS CURVES (EMD1S THRU EMD4S)

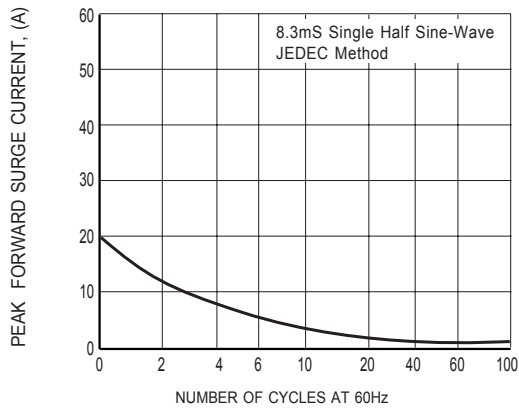


FIG. 4 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

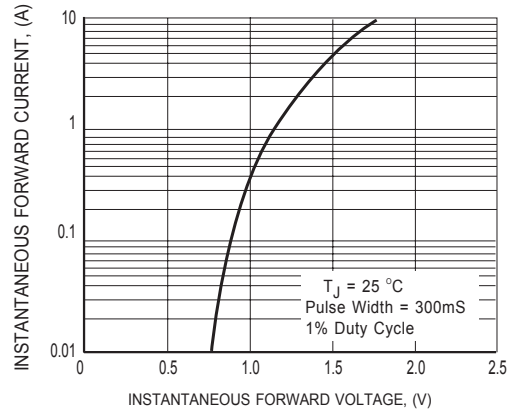


FIG.5 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

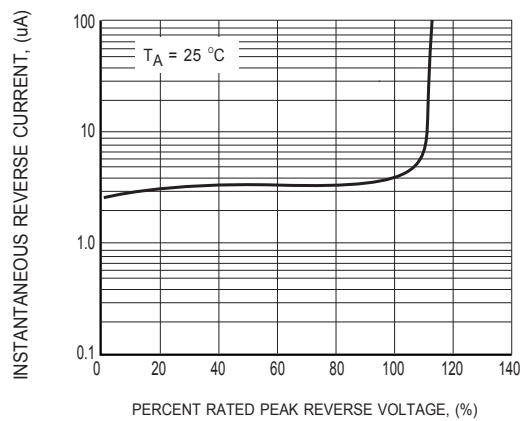
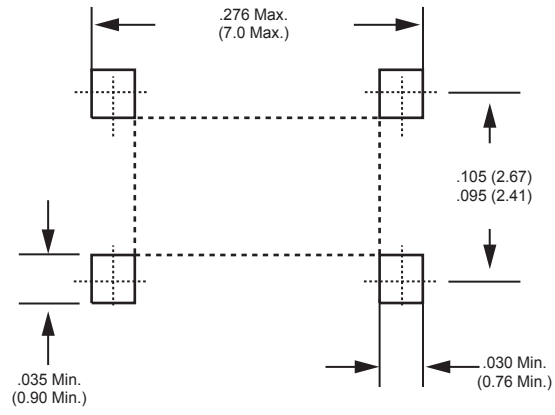


FIG.6 TYPICAL REVERSE CHARACTERISTICS

Mounting Pad Layout



Dimensions in inches and (millimeters)

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