



**EMD1S
THRU
EMD4S**

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

FEATURES

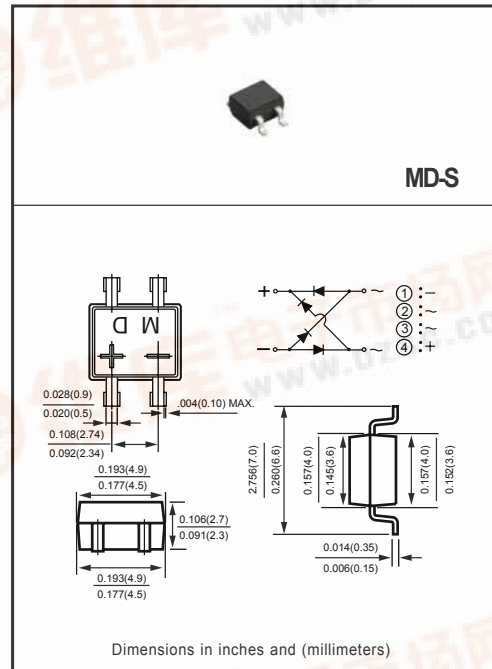
- * Surge overload rating - 20 amperes peak
- * Ideal for printed circuit board
- * Reliable low cost construction utilizing molded
- * Glass passivated device
- * Polarity symbols molded on body
- * Mounting position: Any
- * Weight: 0.5 gram

MECHANICAL DATA

- * Epoxy: Device has UL flammability classification 94V-0

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)

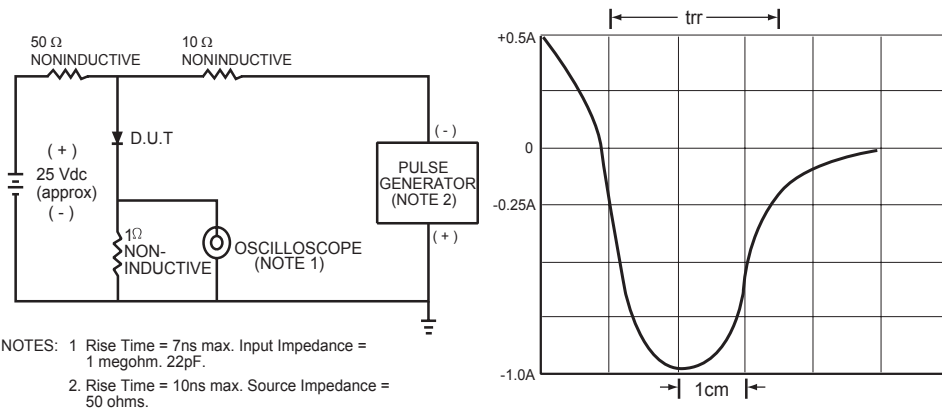


FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

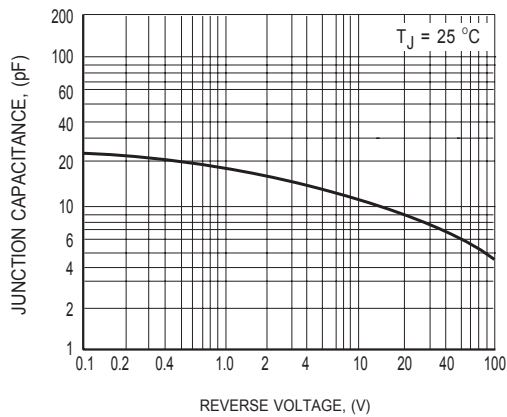


FIG.2 TYPICAL JUNCTION CAPACITANCE

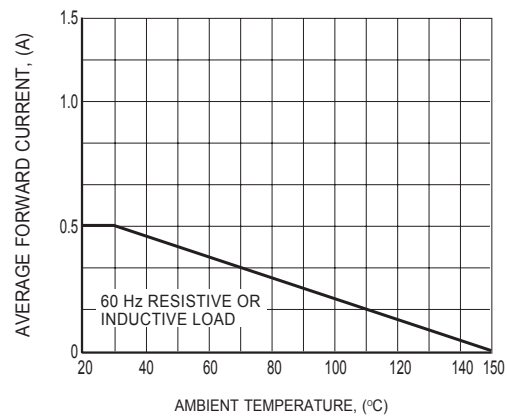


FIG.3 TYPICAL FORWARD CURRENT DERATING CURVE

RATING AND CHARACTERISTICS CURVES (EMD1S THRU EMD4S)

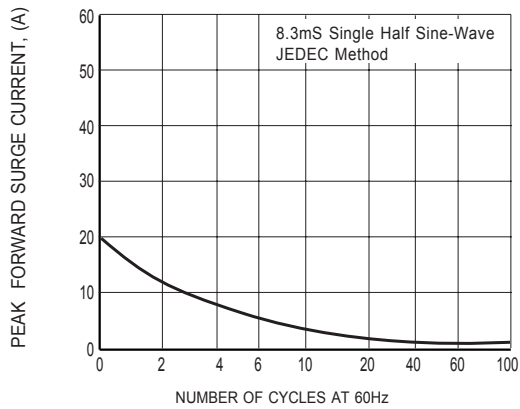


FIG. 4 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

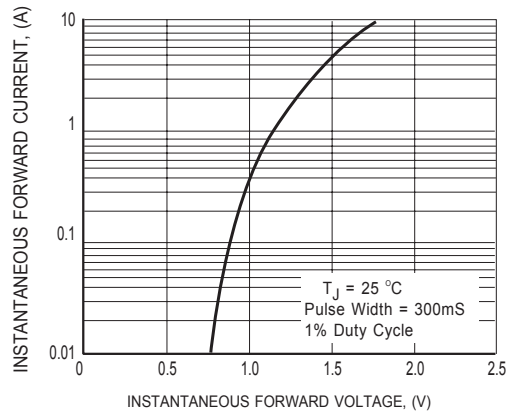


FIG.5 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

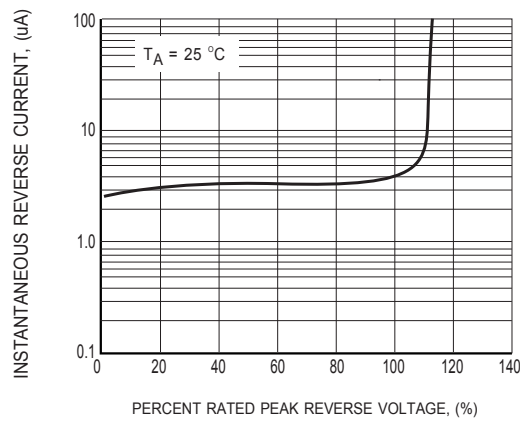
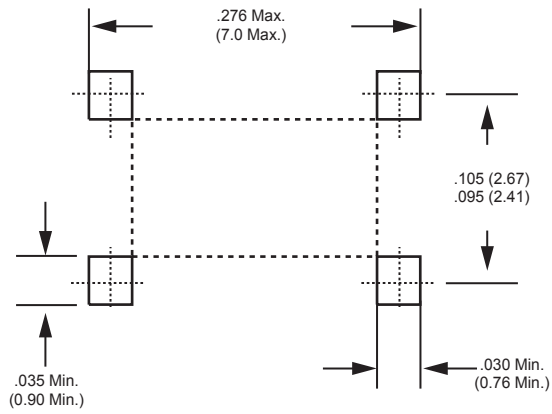


FIG.6 TYPICAL REVERSE CHARACTERISTICS

Mounting Pad Layout



Dimensions in inches and (millimeters)

