RECTRON
SEMICONDUCTOR
TECHNICAL SPECIFICATION

EMD1S THRU EMD4S

SINGLE-PHASE GLASS PASSIVATED MINI SUPER FAST SURFACE MOUNT BRIDGE RECTIFIER

VOLTAGE RANGE 50 to 200 Volts CURRENT 0.5 Ampere

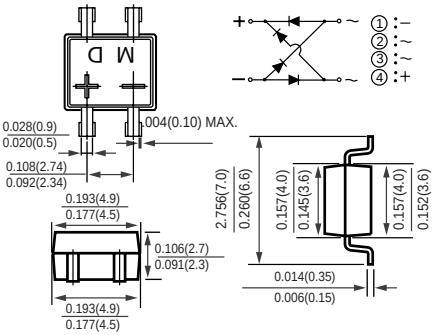
FEATURES

* Surge overload rating - 30 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

MD-S



Dimensions in 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%.

MAXIMUM RATINGS (At T_A = 25°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 Rectified Current at T_A = 30°C - on glass-epoxy P.C.B. (NOTE 1) - on aluminum substrate (NOTE 2)	I_O	0.5 0.8				Amp
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 5)	C_J	15				pF
Operating and Storage Temperature Range	T_J,T_{STG}	-55 to + 150				°C

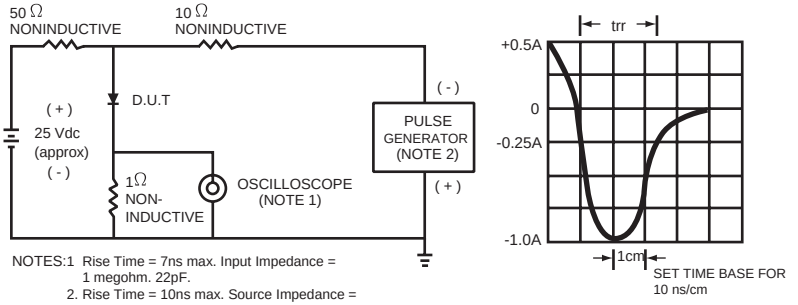
ELECTRICAL CHARACTERISTICS (At T_A = 25°C unless otherwise noted)

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	@T_A = 25°C	I_R	10				uAmps
DC Blocking Voltage per element	@T_A = 125°C		0.5				mAmps
Maximum Reverse Recovery Time (Note 4)		trr	50				nSec

NOTE: 1. On glass-epoxy P.C.B. mounted on 0.05 X 0.05" (1.3 X 1.3mm) pads.
2. 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.
3. Suffix "-S" Surface Mount for Mini Dip Bridge.
4. Test Conditions: I_F=0.5A, I_R=-1.0A, I_{RR}=-0.25A.
5. Measured at 1MHz and applied reverse voltage of 4.0 volts.

RATING AND CHARACTERISTIC CURVES (EMD1S THRU EMD4S)

FIG. 1 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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

FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

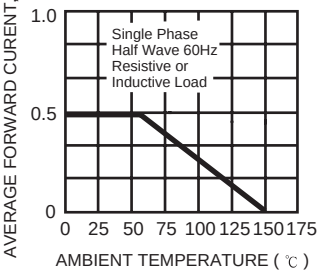


FIG. 3 - TYPICAL REVERSE CHARACTERISTICS

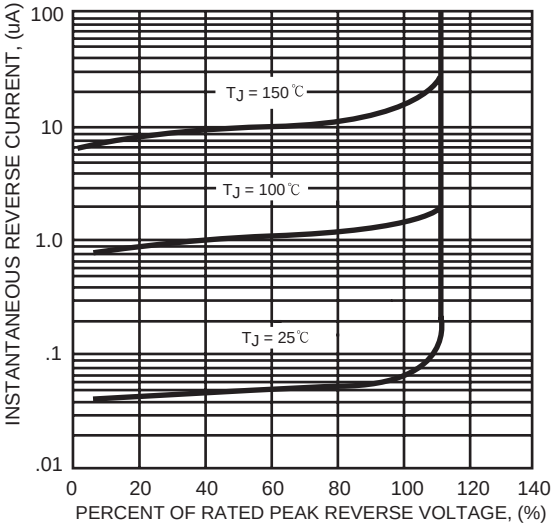


FIG. 4 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

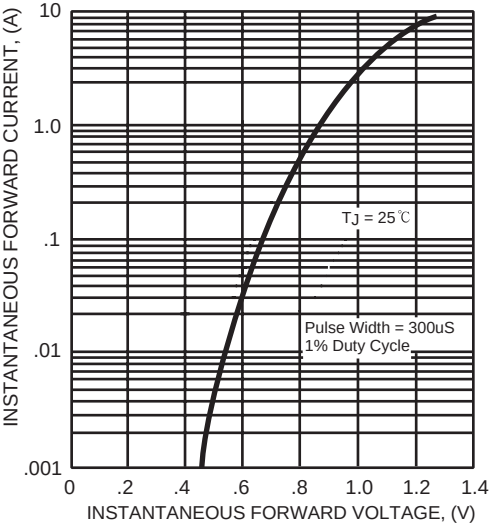


FIG. 5 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

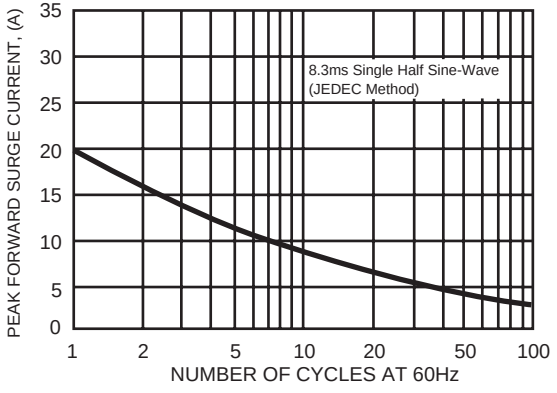
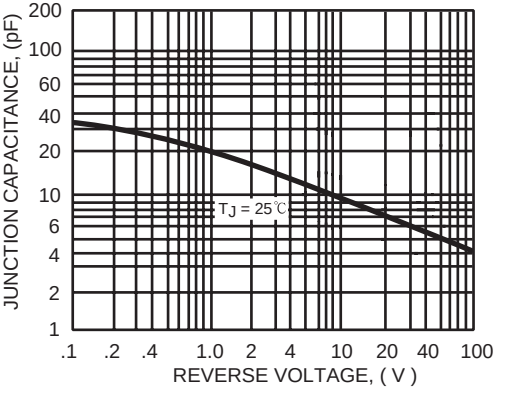
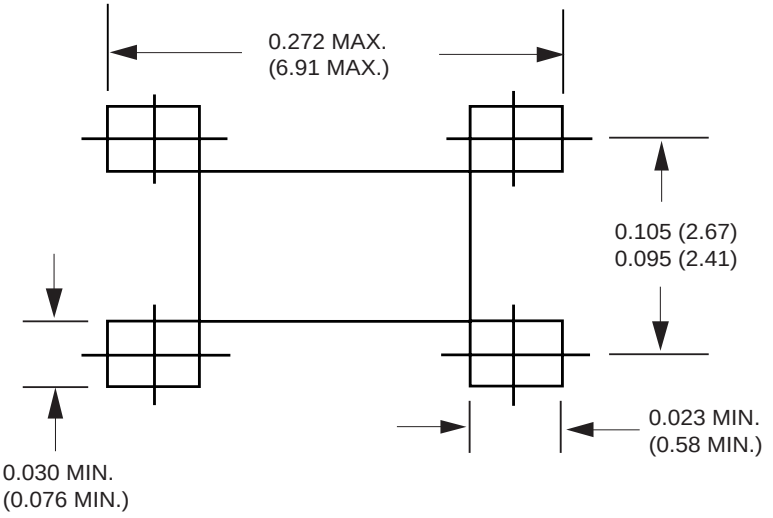


FIG. 6 - TYPICAL JUNCTION CAPACITANCE



Mounting Pad Layout



Dimensions in inches and (millimeters)