



# THE DATASHEET OF EMD1S



**SINGLE-PHASE GLASS PASSIVATED  
MINI SUPER FAST SURFACE MOUNT BRIDGE RECTIFIER**  
VOLTAGE RANGE 50 to 200 Volts CURRENT 1.0 Ampere

**FEATURES**

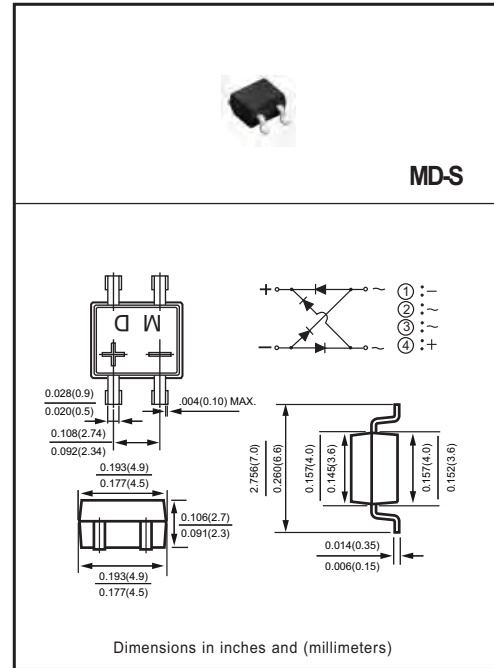
- \* Surge overload rating - 20 amperes peak
- \* Ideal for printed circuit board
- \* Reliable low cost construction utilizing molded
- \* Glass passivated device
- \* Polarity symbols molded on body
- \* Mounting position: Any
- \* Weight: 0.5 gram

**MECHANICAL DATA**

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

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25 °C ambient temperature unless otherwise specified.  
Resistive or inductive load.



**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 $T_A = 30^\circ\text{C}$	$I_O$	1.0				Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	20				Amps
Typical Current Square Time	$I^2T$	1.6				$\text{A}^2\text{S}$
Typical Junction Capacitance (Note 2)	$C_J$	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	$I_R$	10				$\mu\text{Amps}$
DC Blocking Voltage per element		0.5				mAmps
Maximum Reverse Recovery Time (Note 3)	$t_{rr}$	50				nS

Note: 1. "Fully ROHS compliant", "100% Sn plating(Pb-free).  
2. Measure at 1MHz and applied reverse voltage of 4.0 volts.  
3. Test Condition :  $I_F=0.5\text{A}$ ,  $I_R=-1.0\text{A}$ ,  $I_{RR}=-0.25\text{A}$ .

2017-05  
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## RATING AND CHARACTERISTICS CURVES ( EMD1S THRU EMD4S )

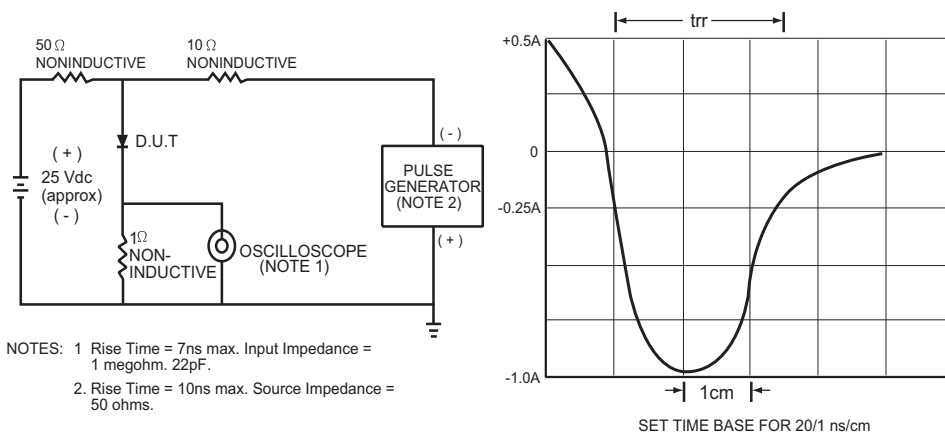


FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

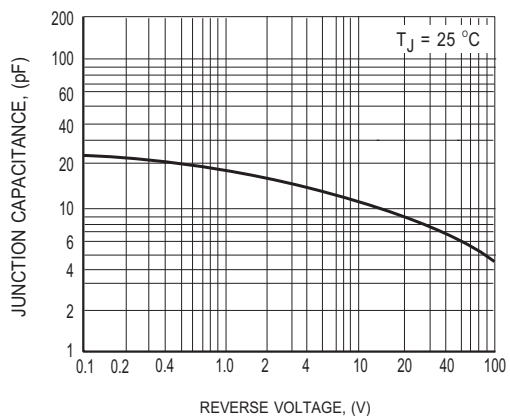


FIG.2 TYPICAL JUNCTION CAPACITANCE

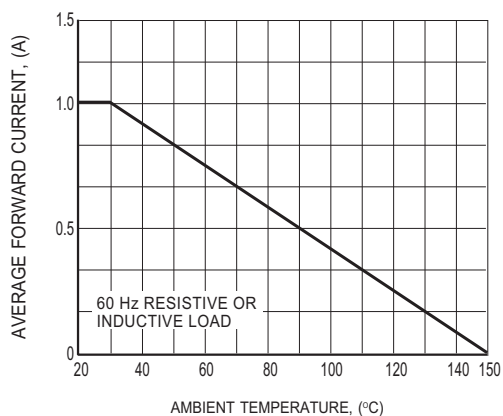
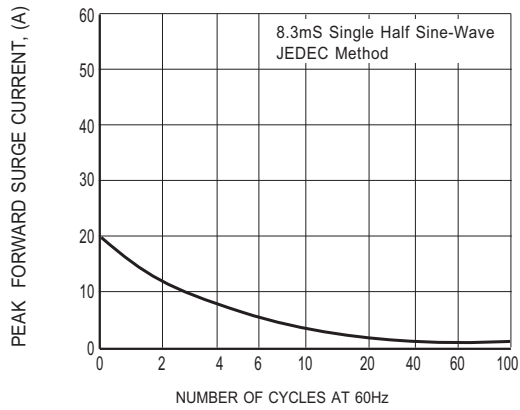
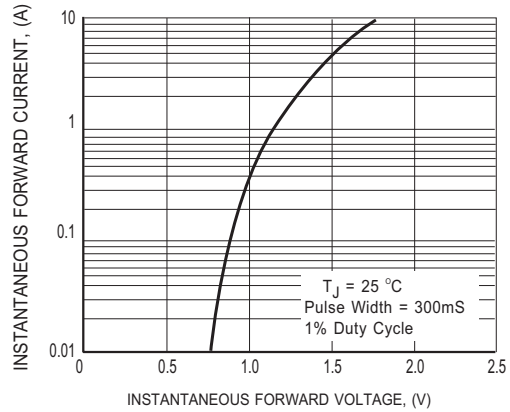


FIG.3 TYPICAL FORWARD CURRENT DERATING CURVE

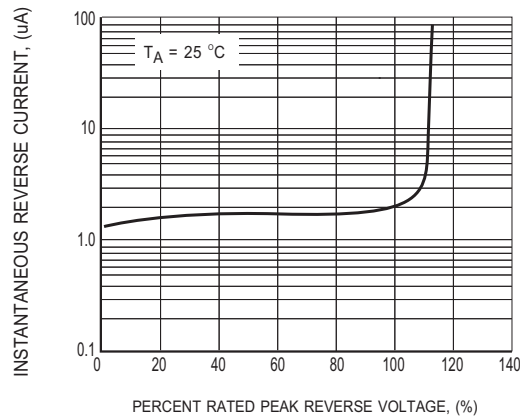
## RATING AND CHARACTERISTICS CURVES ( EMD1S THRU EMD4S )



**FIG. 4 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**

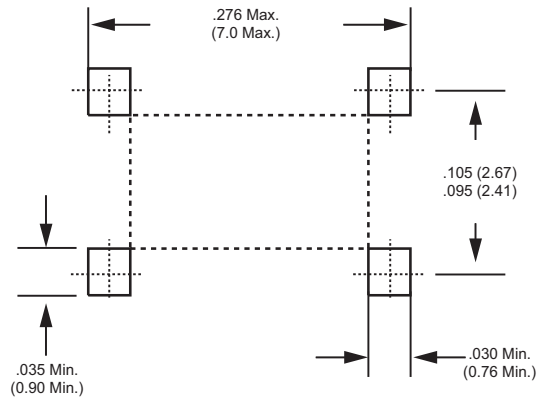


**FIG.5 MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG.6 TYPICAL REVERSE CHARACTERISTICS**

## Mounting Pad Layout



Dimensions in inches and (millimeters)



## PACKAGING OF DIODE AND BRIDGE RECTIFIERS

### REEL PACK

PACKAGE	PACKING CODE	EA PER REEL	EA PER INNER BOX	COMPONENT SPACE (mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
MD-S	-T	500	2,000	---	---	178	390*205*310	16,000	---
MD-S	-W	3,000	6,000	---	---	330	360*355*360	48,000	15.50



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