RECTRON
SEMICONDUCTOR
TECHNICAL SPECIFICATION

FMD1S THRU FMD7S

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

VOLTAGE RANGE 50 to 1000 Volts CURRENT 0.8 Ampere

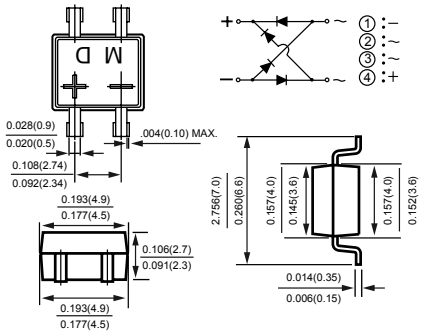
FEATURES

* 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-O

MD-S



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%.

MAXIMUM RATINGS (At T_A = 25°C unless otherwise noted)

RATINGS	SYMBOL	FMD1S	FMD2S	FMD3S	FMD4S	FMD5S	FMD6S	FMD7S	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	480	700	Volts
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Output Current at T_A =30°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}	30							Amps
Typical Junction Capacitance (Note 4)	C_J	15							pF
Operating and Storage Temperature Range	T_J,T_{STG}	-55 to + 150							°C

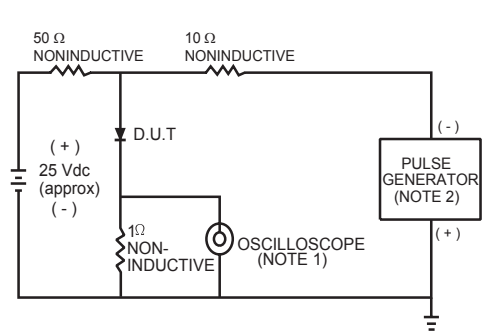
ELECTRICAL CHARACTERISTICS (At T_A = 25°C unless otherwise noted)

CHARACTERISTICS		SYMBOL	FMD1S	FMD2S	FMD3S	FMD4S	FMD5S	FMD6S	FMD7S	UNITS
Maximum Forward Voltage Drop per Bridge Element at 0.4A DC		V_F	1.30							Volts
Maximum Reverse Current at Rated DC Blocking Voltage per element	@T_A = 25°C	I_R	10							μAmps
	@T_A = 125°C		0.1							mAmps
Maximum Reverse Recovery Time (Note 5)		trr	150				250	500		nS

Note: 1."Fully ROHS compliant","100% Sn plating(Pb-free). 2007-08

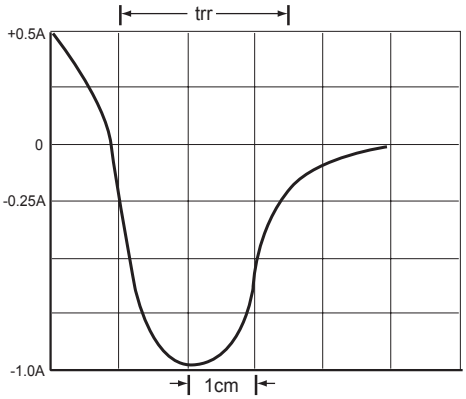
2. On glass-epoxy P.C.B. mounted on 0.05 X 0.05" (1.3 X 1.3mm) pads.
3. On aluminum substrate P.C.B. with an area of 0.8 X 0.8 X 0.25" (20 X 20 X 6.4mm) mounted on 0.05 X 0.05" (1.27 X 1.27mm) solder pad.
4. Measure at 1MHz and applied reverse voltage of 4.0 volts.
5. Test Condition : I_F=0.5A, I_R=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

RATING AND CHARACTERISTICS CURVES (FMD1S THRU FMD7S)



NOTES: 1 Rise Time = 7ns max. Input Impedance = 1 megohm. 22pF.

2. Rise Time = 10ns max. Source Impedance = 50 ohms.



SET TIME BASE FOR 100/1 ns/cm

FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

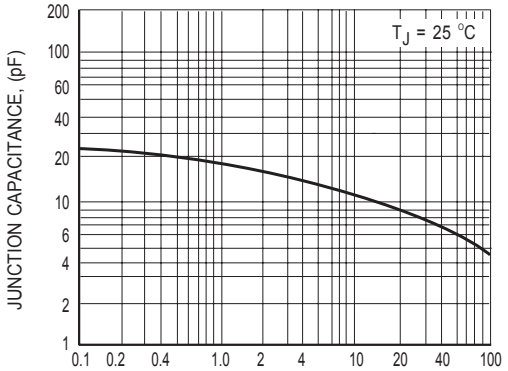


FIG.2 TYPICAL JUNCTION CAPACITANCE

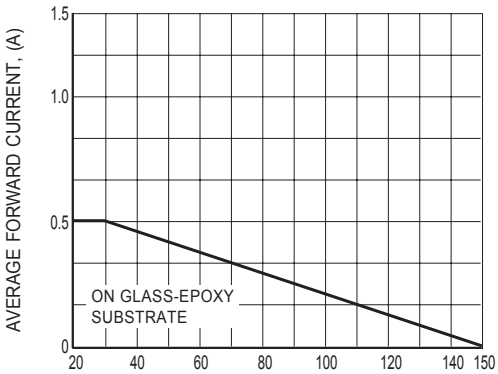


FIG.3 TYPICAL FORWARD CURRENT DERATING CURVE

RATING AND CHARACTERISTICS CURVES (FMD1S THRU FMD7S)

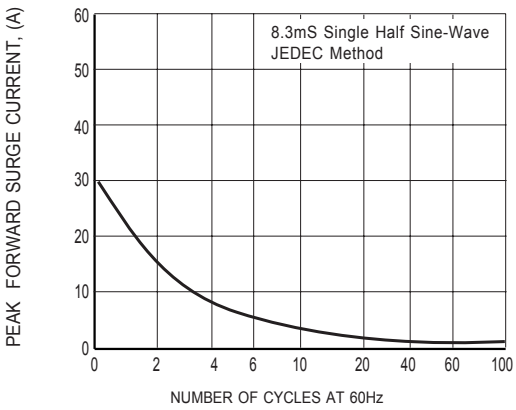


FIG. 4 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

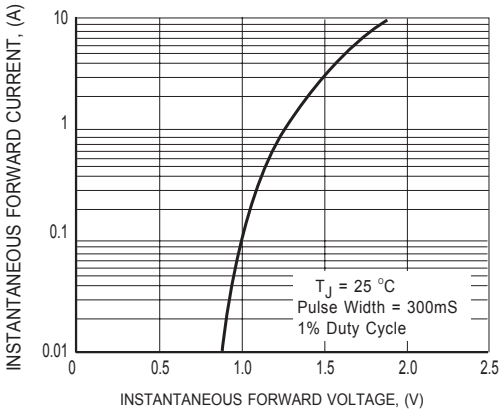


FIG.5 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

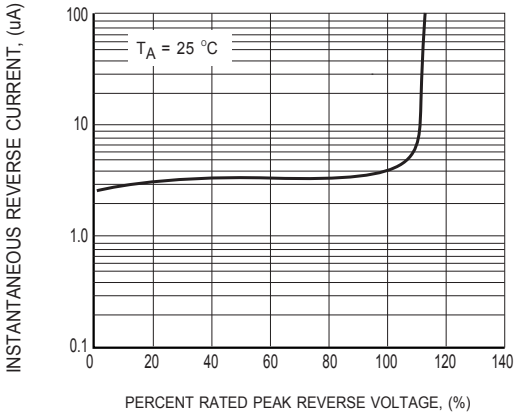
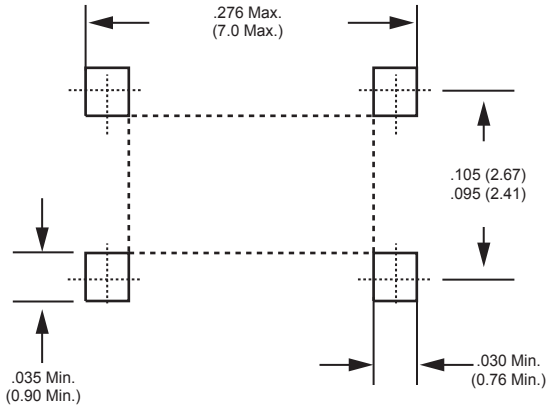


FIG.6 TYPICAL REVERSE CHARACTERISTICS

Mounting Pad Layout



Dimensions in inches and (millimeters)

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