

**SINGLE-PHASE GLASS PASSIVATED  
MINI FAST RECOVERY SURFACE MOUNT BRIDGE RECTIFIER**  
**VOLTAGE RANGE 50 to 1000 Volts CURRENT 0.8 Ampere**

**FEATURES**

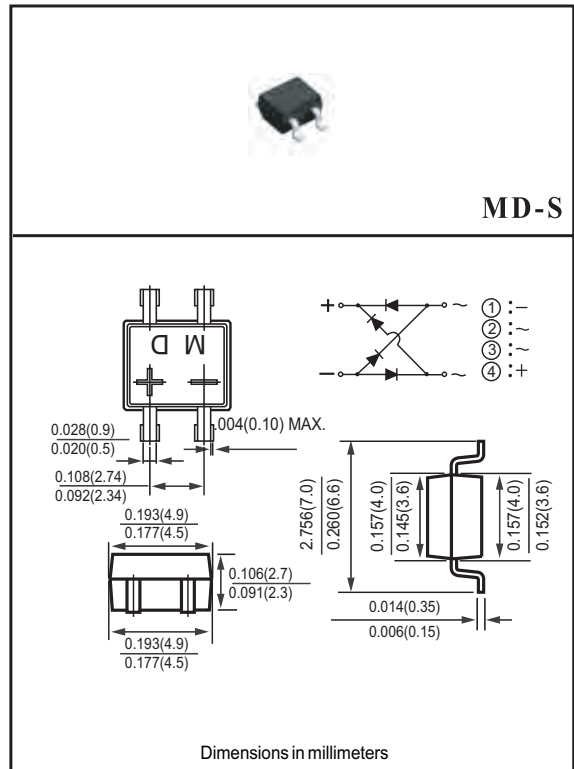
- \* Surge overload rating - 30 amperes peak
- \* Ideal for printed circuit board
- \* Reliable low cost construction utilizing molded
- \* Glass passivated device
- \* Polarity symbols molded on body
- \* Mounting position: Any
- \* Weight: 0.5 gram

**MECHANICAL DATA**

- \* Epoxy : Device has UL flammability classification 94V-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 TA = 25°C unless otherwise noted)

RATINGS	SYMBOL	FMD1S	FMD2S	FMD3S	FMD4S	FMD5S	FMD6S	FMD7S	UNITS	
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	200	400	600	800	1000	Volts	
Maximum RMS Bridge Input Voltage	VRMS	35	70	140	280	420	560	700	Volts	
Maximum DC Blocking Voltage	VDC	50	100	200	400	600	800	1000	Volts	
Maximum Average Forward Output Rectified Current TA = 30°C -on glass-epoxy P.C.B. ( NOTE 1 ) -on aluminum substrate ( NOTE 2 )	IO					0.5 0.8				Amp
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	IFSM					30				Amps
Typical Current Squared Time	i <sup>2</sup> T					3.74				A <sup>2</sup> S
Typical Junction Capacitance ( Note3 )	CJ					15				pF
Operating and Storage Temperature Range	TJ,TSTG					-55 to + 150				°C

**ELECTRICAL CHARACTERISTICS** (At TA = 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	VF					1.30				Volts
Maximum Reverse Current at rated DC Blocking Voltage per element	IR					10 100				uAmps
Maximum Reverse Recovery Time ( Note 4 )	trr					150	250	500		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.

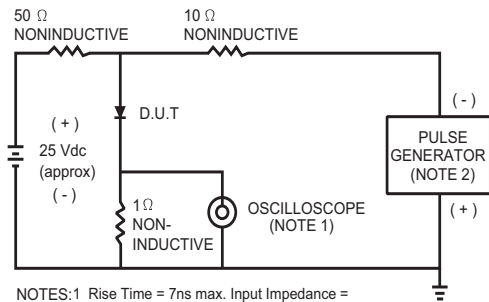
3. Measured at 1MHz and applied reverse voltage of 4.0 volts.

4. Test Conditions: IF = 0.5A, IR = -1.0A, IRR = -0.25A.

5. Suffix "-S" Surface Mount for Mini Dip Bridge.

# RATING AND CHARACTERISTIC CURVES ( FMD1S THRU FMD7S )

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.

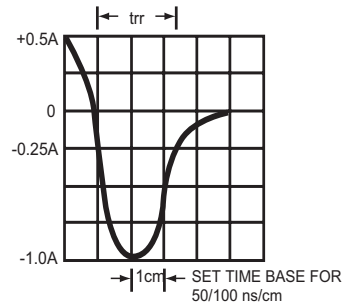


FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

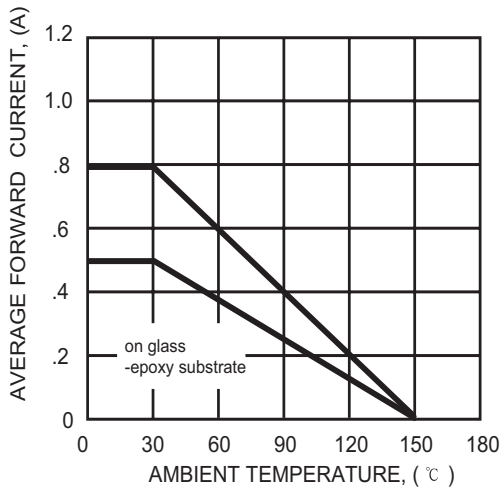


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

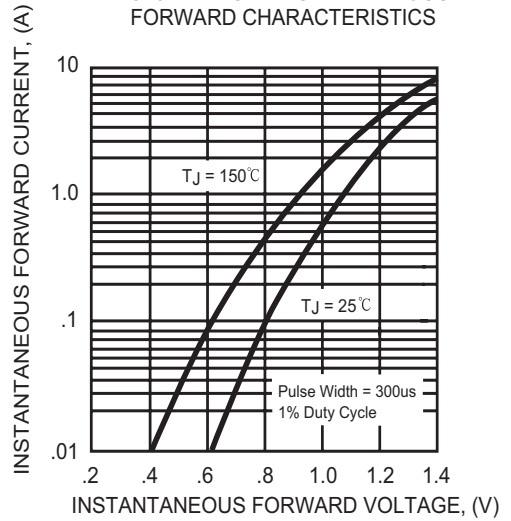


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

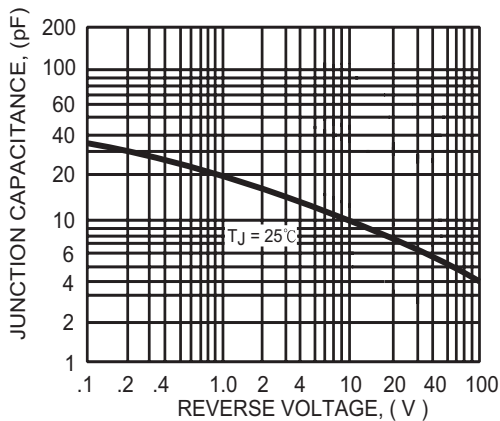
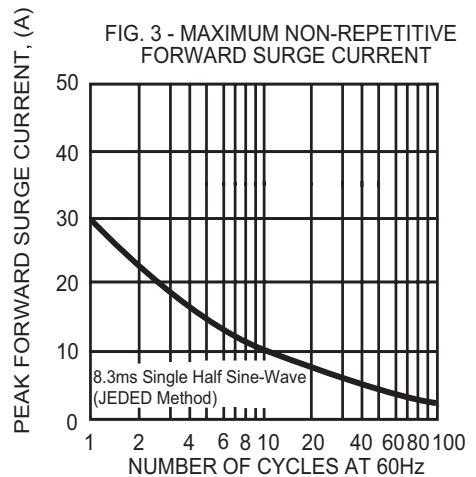
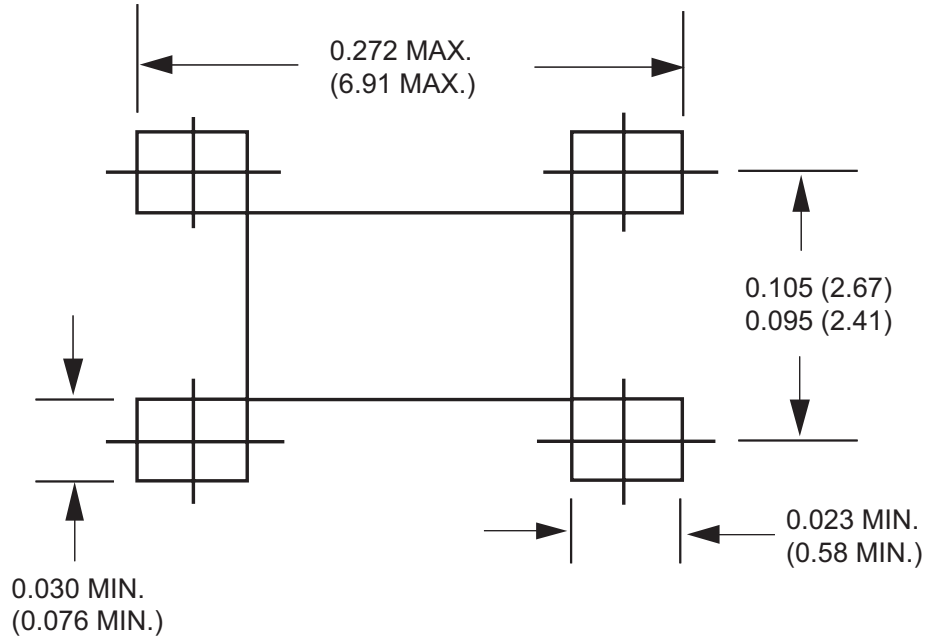


FIG. 3 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



## Mounting Pad Layout



Dimensions in inches and (millimeters)

# PACKAGING OF DIODE AND BRIDGE RECTIFIERS

## REEL PACK

PACKAGE	packing code	EA PER REEL	COMPONENT SPACE(mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
R-1	-T	5,000	5.0	52	330	355*360*350	20,000	7.25
A-405	-T	5,000	5.0	330	52	355*360*350	20,000	8.13
DO-41	-T	5,000	5.0	52	330	355*360*350	20,000	10.49
DO-15	-T	4,000	5.0	52	330	355*360*350	16,000	10.05
R-3	-T	3,000	5.0	52	330	355*360*350	12,000	10.37
DO-201AD	-T	1,200	9.5	52	330	355*360*350	4,800	8.93
1.5KE	-T	1,200	10.0	52.4	330	355*360*350	4,800	8.05
R-6	-T	500	9.5	52	330	355*360*350	2,000	7.29
SMA	-T	1,500	---	---	178	465*220*260	48,000	8.40
SMA	-W	5,000	---	---	330	355*360*350	80,000	14.20
MELF	-T	1,500	---	---	178	465*220*260	48,000	11.14
MELF	-W	5,000	---	---	330	355*360*350	80,000	19.60
DB-S	-T	1,000	---	---	330	355*360*350	8,000	9.85
MD	-T	500	---	---	178	465*220*260	16,000	---
MD	-W	3,000	---	---	330	355*360*350	48,000	15.50
SMB	-T	500	---	---	178	465*220*260	16,000	---
SMB	-W	3,000	---	---	330	355*360*350	48,000	13.90
SMC	-T	500	---	---	176	465*220*260	12,000	---
SMC	-W	3,000	---	---	330	355*360*350	24,000	11.50
D2PAK	-W	800	---	---	330	355*360*350	6,400	---

## AMMO PACK

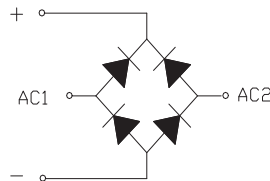
PACKAGE	PACKING CODE	REEL ( EA )	COMPONENT SPACE(mm)	TAPE SPACE (mm)	BOX SIZE (mm)	CARTON SIZE(mm)	CARTON ( EA )	GROSS WEIGHT (Kg)
R-1	-F	3,000	5.0	52	255*73*100	402*270*225	30,000	8.5
A-405	-F	3,000	5.0	52	255*73*100	402*270*225	30,000	9.6
DO-41	-F	3,000	5.0	52	255*73*100	402*270*225	30,000	13.0
DO-15	-F	1,500	5.0	52	255*73*100	402*270*225	15,000	8.8
R-3	-F	1,500	5.0	52	255*73*100	402*270*225	15,000	11.2
DO-201AD	-F	600	9.5	52	255*73*100	402*270*225	6,000	9.9
R-6	-F	300	9.5	52	255*73*100	402*270*225	3,000	8.7
R-1	-E	3,000	5.0	26	256*46*94	347*320*220	42,000	8.35
A-405	-E	3,000	5.0	26	256*46*94	347*320*220	42,000	9.61
DO-41	-E	3,000	5.0	26	256*46*94	347*320*220	42,000	12.41
R-1	-J	3,000	12.7	---	328*170*42	355*360*350	42,000	13.93
R-1	-I	2,000	12.7	---	328*170*42	355*360*350	28,000	9.31
A405	-N	2,000	12.7	---	328*170*42	355*360*350	28,000	11.41



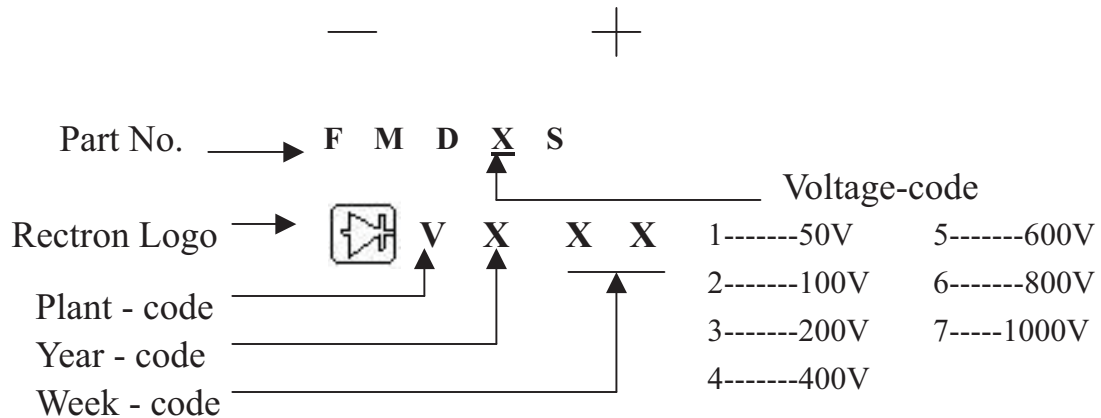
# RECTRON

## Attachment information about FMDXS

### 1. Internal Circuit



### 2. Marking on the body



### 3. Items marked on the inner box and carton

#### 3.1 On the box (for -B)

CUSTOMER  
TYPE  
LOT NO.  
QUANTITY  
Q.A.  
DATE

#### 3.2 On the carton

CUSTOMER  
TYPE  
QUANTITY  
LOT NO.  
REMARK

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