

**SURFACE MOUNT GLASS PASSIVATED  
FAST RECOVERY SILICON RECTIFIER**  
VOLTAGE RANGE 50 to 1000 Volts CURRENT 2.0 Amperes

**FEATURES**

- \* Glass passivated device
- \* Ideal for surface mounted applications
- \* Low leakage current
- \* Metallurgically bonded construction
- \* Mounting position: Any
- \* Weight: 0.098 gram
- \* P/N suffix V means AEC-Q101 qualified
- \* P/N suffix V means Halogen-free

**MECHANICAL DATA**

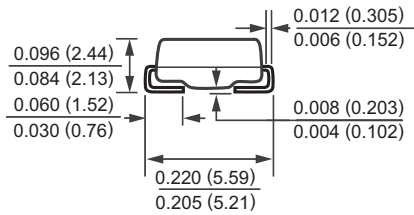
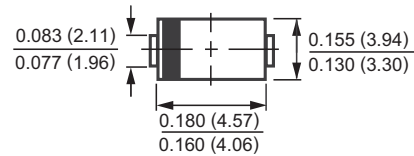
- \* Epoxy : Device has UL flammability classification 94V-0

**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%.



DO-214AA



Dimensions in inches and (millimeters)

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

RATINGS	SYMBOL	FFM201	FFM202	FFM203	FFM204	FFM205	FFM206	FFM207	UNITS
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	200	400	600	800	1000	Volts
Maximum RMS 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 Rectified Current at TA = 55°C	Io	2.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	IFSM	70							Amps
Typical Current Squared Time	I <sup>2</sup> T	20.33							A <sup>2</sup> S
Maximum Thermal Resistance	(Note 2) RθJL	20							°C/W
	(Note 3) RθJA	60							°C/W
Typical Junction Capacitance (Note 1)	CJ	50							pF
Operating and Storage Temperature Range	TJ, TSTG	-55 to + 150							°C

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

CHARACTERISTICS	SYMBOL	FFM201	FFM202	FFM203	FFM204	FFM205	FFM206	FFM207	UNITS	
Maximum Forward Voltage at 2.0A DC	VF					1.3				Volts
Maximum Full Load Reverse Current, Full cycle Average at TA=55°C						20				uAmps
Maximum DC Reverse Current at	IR					2.0				uAmps
						2.0				mAmps
Rated DC Blocking Voltage						2.0				mAmps
Maximum Reverse Recovery Time (Note 4)	trr	150			250	500			nSec	

- NOTES : 1. Measured at 1.0 MHz and applied average voltage of 4.0VDC  
 2. Thermal resistance junction to terminal 6.0mm<sup>2</sup> copper pads to each terminal.  
 3. Thermal resistance junction to ambient, 6.0mm<sup>2</sup> copper pads to each terminal.  
 4. Test Conditions: IF = 0.5A, IR = -1.0A, IRR = -0.25A

# RATING AND CHARACTERISTIC CURVES ( FFM201 THRU FFM207 )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

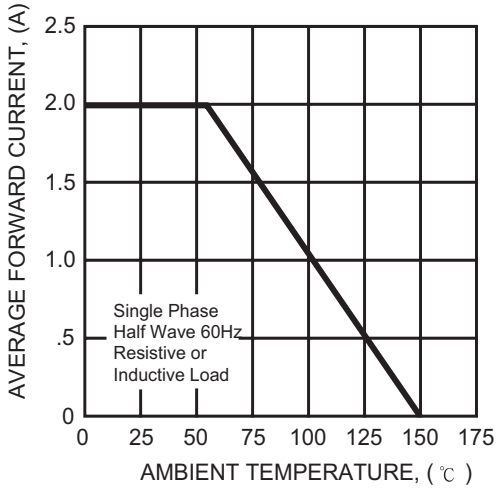


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

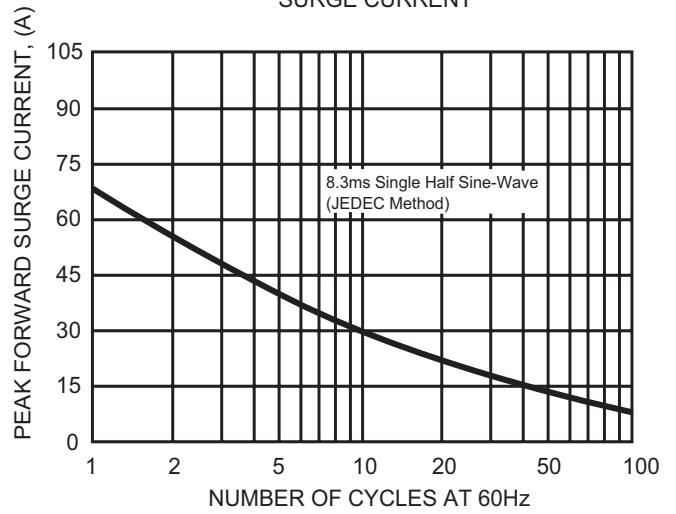


FIG. 3 - MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS

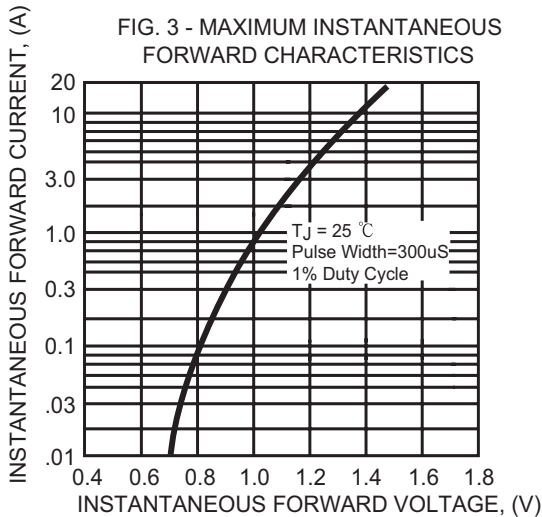


FIG. 4 - TYPICAL JUNCTION CAPACITANCE

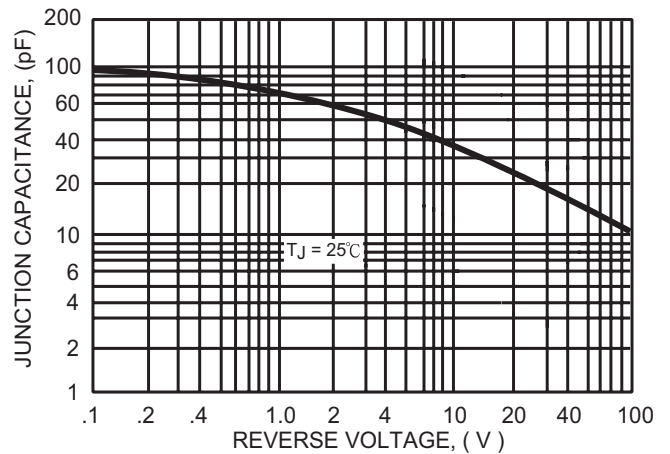
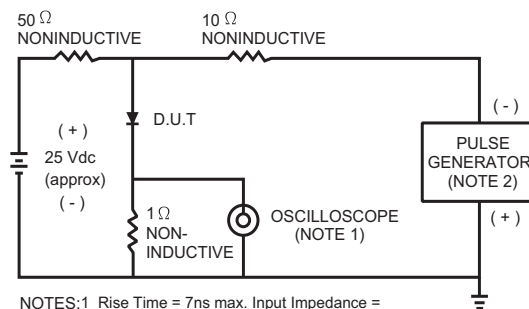
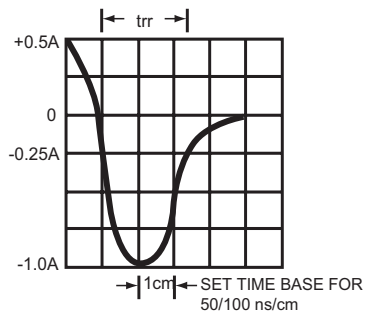


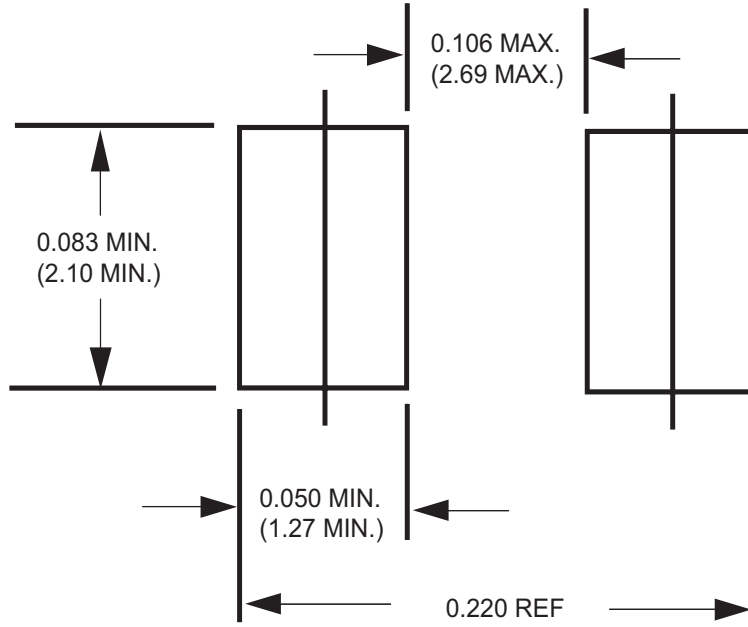
FIG. 5 - TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



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



## 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)
SMB	-T	500	2,000	---	---	178	390*205*310	16,000	---
SMB	-W	3,000	6,000	---	---	330	360*355*360	48,000	13.90

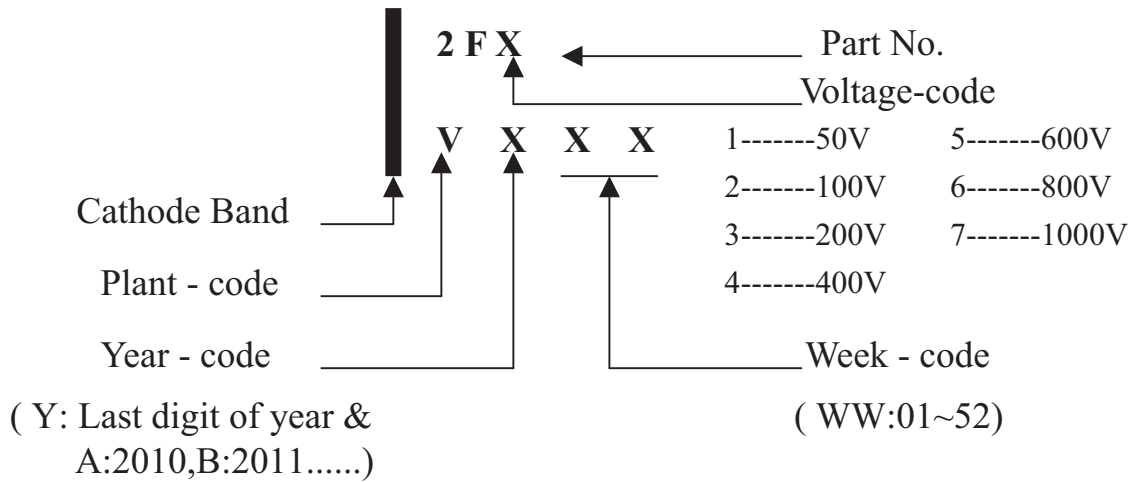


## Attachment information about FFM20X

### 1. Internal Circuit



### 2. Marking on the body





## **Attachment information about FFM20X**

### **3. Items marked on the reel box and carton**

#### **3.1 On the reel (for -T & -W)**

**CUSTOMER**

**TYPE**

**QUANTITY**

**LOT NO.**

**Q.A.**

**REMARK**

#### **3.2 On the box (for -T & -W)**

**TYPE**

**QUANTITY**

**LOT NO.**

**Q.A.**

#### **3.3 On the carton**

**CUSTOMER**

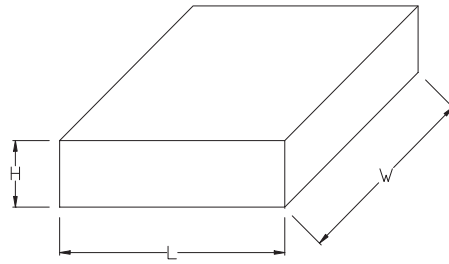
**TYPE**

**QUANTITY**

**LOT NO.**

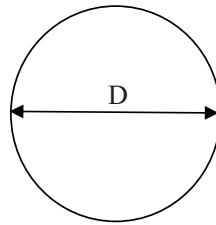
**REMARK**

1. BOX



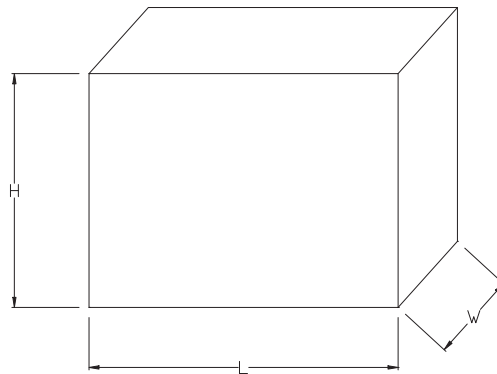
Packing Code	L (mm)	W (mm)	H (mm)
-T	182	182	68
-W	338	338	40

2. REEL



Packing Code	D (mm)
-T	178
-W	330

3. CARTON



Packing Code	L (mm)	W (mm)	H (mm)
-T	390	205	310
-W	360	355	360