



# FR2A~FR2M

## SURFACE MOUNT FAST RECOVERY RECTIFIER

**VOLTAGE** 50 to 1000 Volt **CURRENT** 2 Ampere

**SMB / DO-214AA**

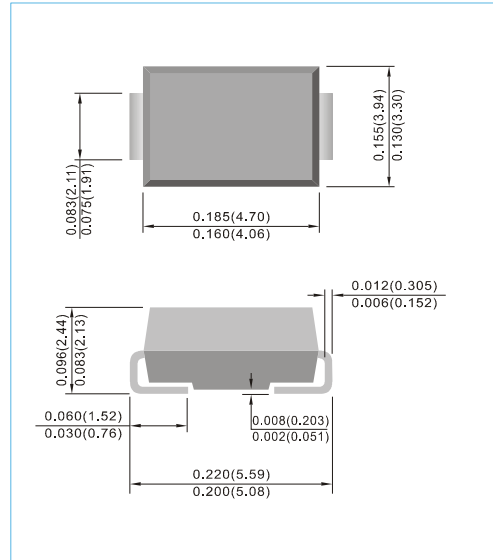
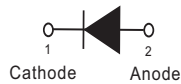
Unit : inch(mm)

### FEATURES

- For surface mounted applications in order to optimize board space
- Easy pick and place
- Fast Recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Glass passivated junction
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### MECHANICAL DATA

- Case: JEDEC DO-214AA molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Standard packaging: 12mm tape (EIA-481)
- Weight: 0.0032 ounces, 0.092 grams



## 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%.

PARAMETER	SYMBOL	FR2A	FR2B	FR2D	FR2G	FR2J	FR2K	FR2M	UNITS
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum Average Rectified Current	$I_{F(AV)}$	2							A
Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	50							A
Maximum Forward Voltage at 2A	$V_F$	1.3							V
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_j=25^\circ\text{C}$ $T_j=125^\circ\text{C}$	$I_R$	1 150							$\mu\text{A}$
Maximum Reverse Recovery Time (Notes 1)	$t_{rr}$	150					250	500	ns
Maximum Junction Capacitance (Notes 2)	$C_j$	40							pF
Typical Junction Resistance (Notes 3) (Notes 4) (Notes 5)	$R_{\theta JL}$ $R_{\theta JC}$ $R_{\theta JA}$	20 12.5 125							$^\circ\text{C} / \text{W}$
Operating Junction and Storage Temperature Rating	$T_j, T_{STG}$	-50 to +150							$^\circ\text{C}$

- NOTES: 1. Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=-1\text{A}$ ,  $I_{rr}=-0.25\text{A}$   
 2. Measured at 1 MHz and applied  $V_r = 4$  volts.  
 3.  $8\text{mm}^2$  (0.013mm thick) land areas.  
 4. Mounted on a FR4 PCB with  $100\text{cm}^2$  copper pad area  
 5. Mounted on a FR4 PCB with min. copper pad area .



# FR2A~FR2M

## RATING AND CHARACTERISTIC CURVES

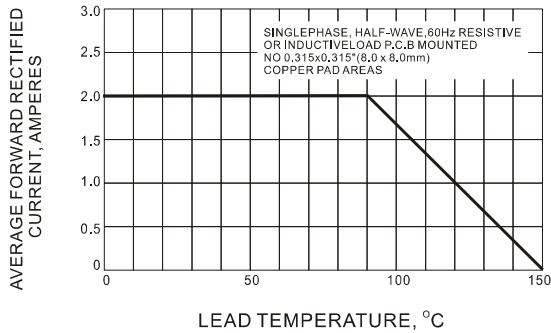


Fig.1 FORWARD CURRENT DERATING CURVE

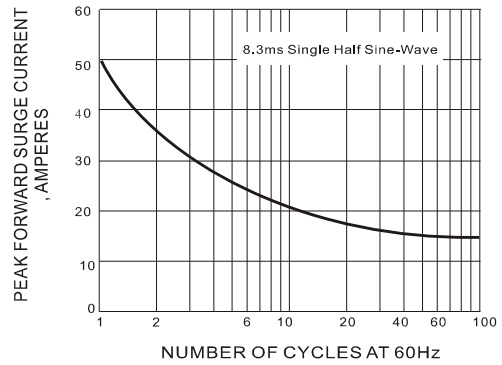


Fig.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

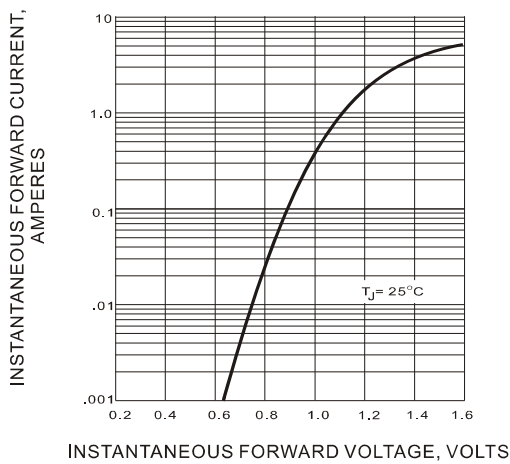


Fig.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

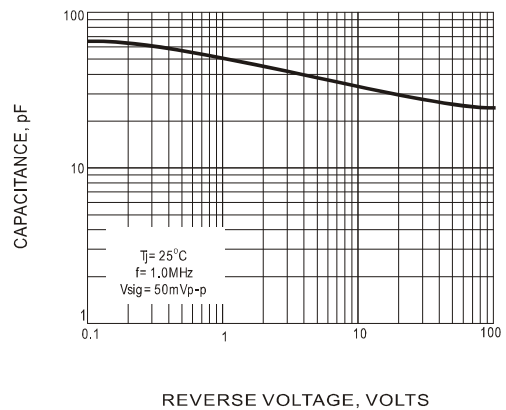


Fig.4 TYPICAL JUNCTION CAPACITANCE

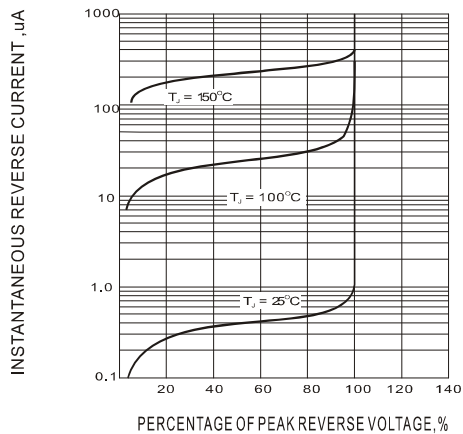


Fig.5-TYPICAL REVERSE CHARACTERISTIC

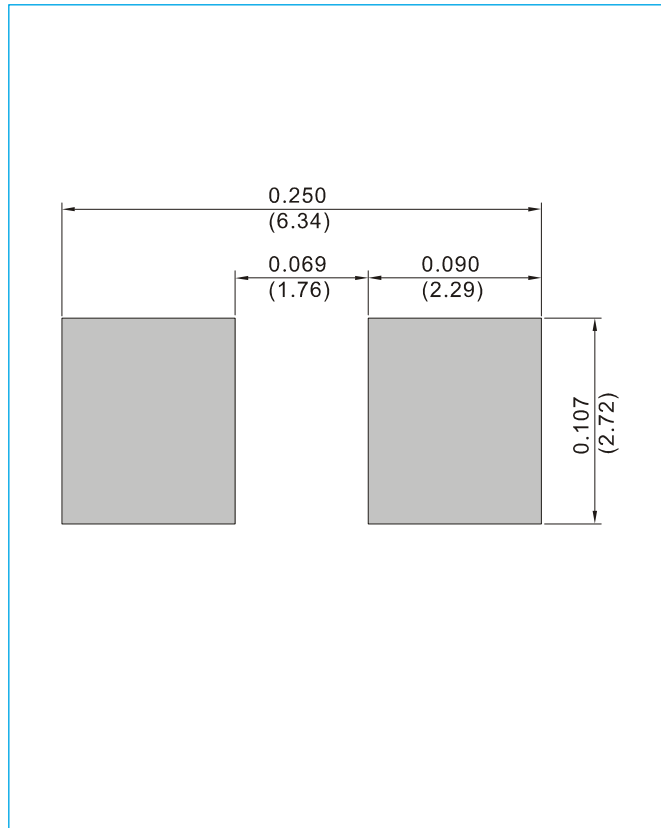


## FR2A~FR2M

### MOUNTING PAD LAYOUT

SMB / DO-214AA

Unit : inch(mm)



### ORDER INFORMATION

- Packing information  
T/R - 3K per 13" plastic Reel  
T/R - 0.8K per 7" plastic Reel



## FR2A~FR2M

### Part No\_packing code\_Version

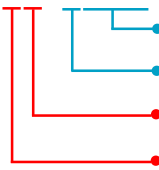
FR2A\_R1\_00001

FR2A\_R2\_00001

For example :

**RB500V-40\_R2\_00001**

Part No.



Serial number

Version code means HF

Packing size code means 13"

Packing type means T/R

Packing Code <b>XX</b>				Version Code <b>XXXXX</b>		
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HF or RoHS	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			



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