



FR1AF SERIES

SURFACE MOUNT FAST RECOVERY RECTIFIER

VOLTAGE 50 to 600 Volts **CURRENT** 1.0 Ampere

SMBF

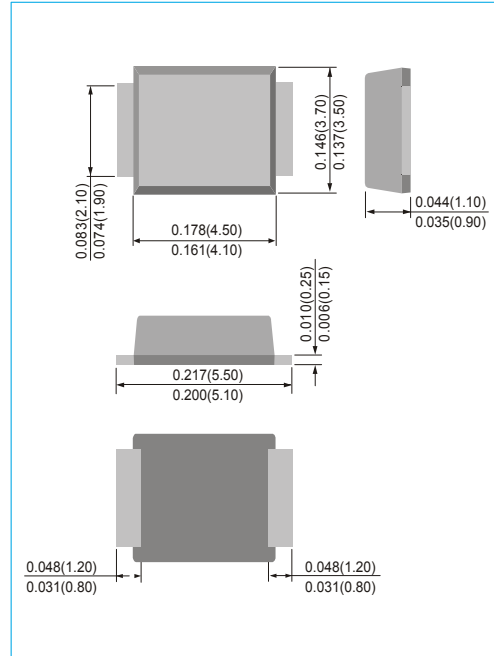
Unit : inch(mm)

FEATURES

- For surface mounted applications
- Low profile package
- Built-in strain relief
- 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 comply with EU RoHS 2002/95/EC directives.
- Green molding compound as per IEC61249 Std

MECHANICAL DATA

- Case: SMBF molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0018 ounce, 0.05 grams
- Polarity: Color band denotes cathode end



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	FR1AF	FR1BF	FR1DF	FR1GF	FR1JF	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	1.0					A
Peak Forward Surge Current :8.3ms single half sine-wave superimposed on rated load(JEDEC method)per diode	I_{FSM}	30					A
Maximum Forward Voltage at 1A	V_F	1.3					V
Maximum DC Reverse Current $T_j=25^\circ\text{C}$	I_R	1.0					μA
Typical Junction Capacitance (VR=4V f=1MHZ)	C_J	16				9	pF
Typical Thermal Resistance (Note 1) (Note 2)	$R_{\theta JL}$ $R_{\theta JA}$	21 135					$^\circ\text{C} / \text{W}$
Maximum Reverse Recovery Time	T_{rr}	150				250	nS
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150					$^\circ\text{C}$

NOTES : 1. Mounted on an FR4 PCB, single-sided copper, with 48cm² copper pad area.
2. Mounted on an FR4 PCB, single-sided copper, mini pad.



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RATING AND CHARACTERISTIC CURVES

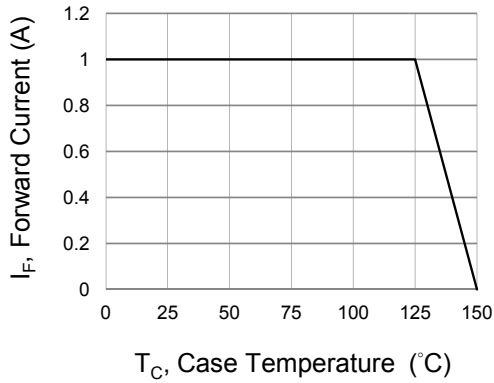


Fig.1 Forward Current Derating Curve

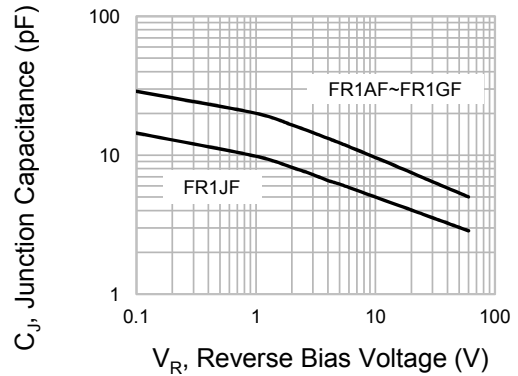


Fig.2 Typical Junction Capacitance

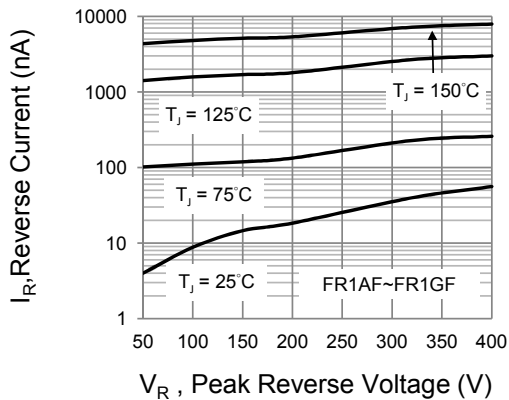


Fig.3 Typical Reverse Characteristics

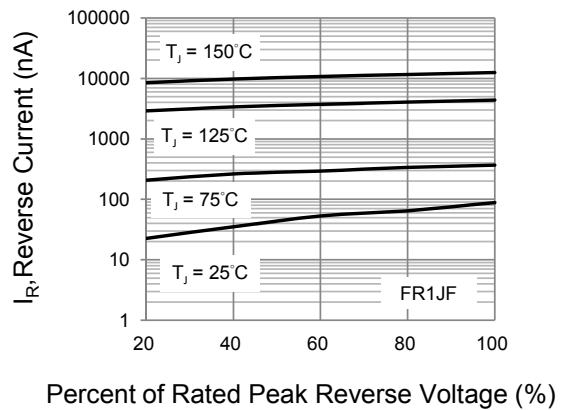


Fig.4 Typical Reverse Characteristics

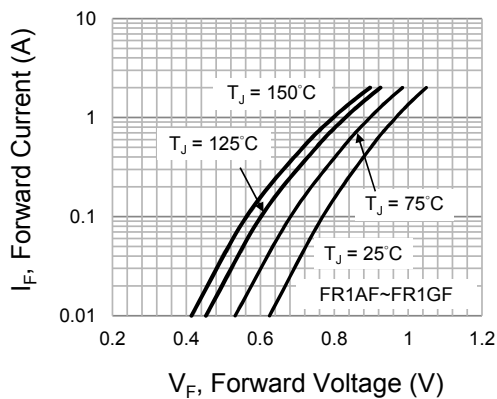


Fig.5 Typical Forward Characteristics

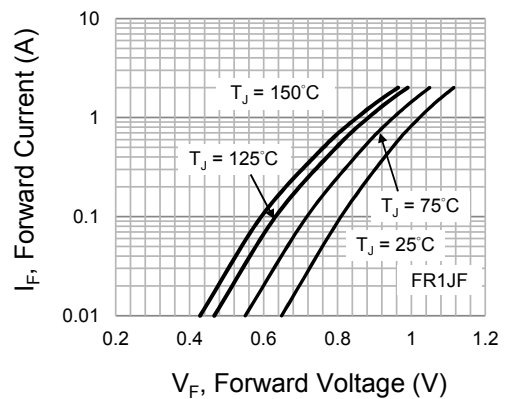
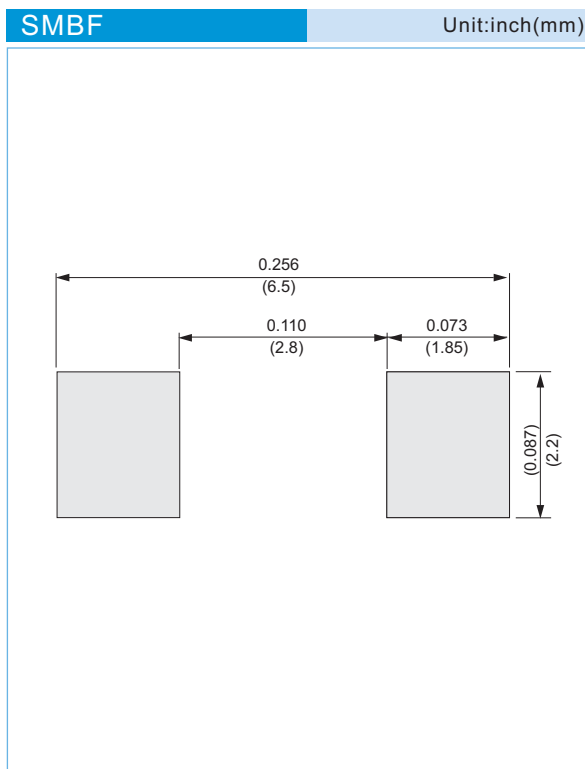


Fig.6 Typical Forward Characteristics



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MOUNTING PAD LAYOUT



ORDER INFORMATION

- Packing information
T/R - 5K per 13" plastic Reel

LEGAL STATEMENT

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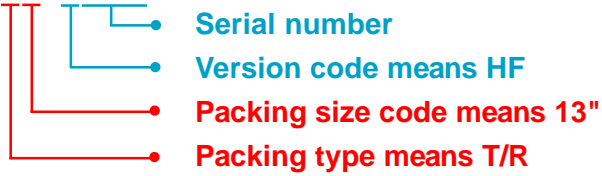


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For example :

RB500V-40_R2_00001

Part No.



Packing Code XX				Version Code XXXXX		
Packing type	1 st Code	Packing size code	2 nd Code	HF or RoHS	1 st Code	2 nd ~5 th Code
T/B	A	N/A	0	HF	0	serial number
T/R	R	7"	1	RoHS	1	serial number
B/P	B	13"	2			
T/P	T	26mm	X			
TRR	S	52mm	Y			
TRL	L	PBCU	U			
FORMING	F	PBCD	D			

Part No_packing code_Version

FR1AF_R1_00001

FR1AF_R2_00001