



FR1AF SERIES

SURFACE MOUNT FAST RECOVERY RECTIFIER

VOLTAGE 50 to 600 Volt **CURRENT** 1 Ampere

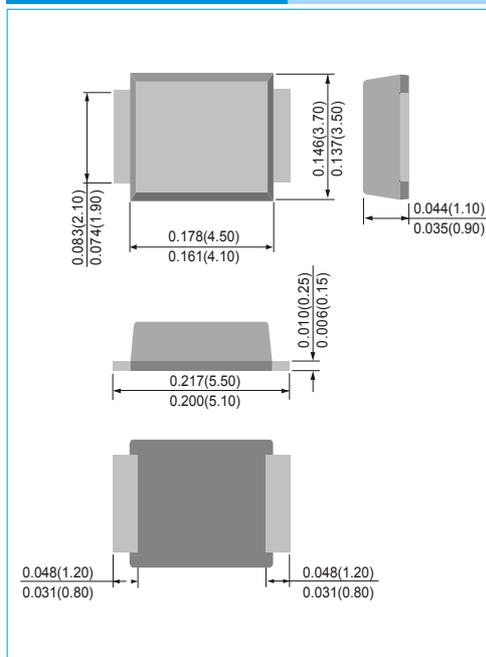
SMBF Unit : inch(mm)

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 compliance with EU RoHS 2011/65/EU directive
- 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.



FR1AF SERIES

RATING AND CHARACTERISTIC CURVES

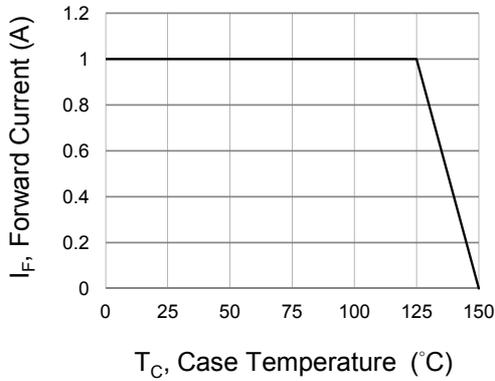


Fig.1 Forward Current Derating Curve

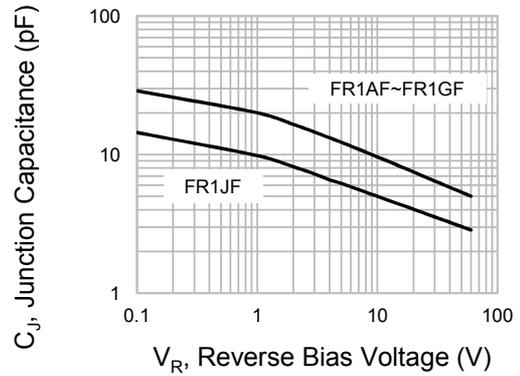


Fig.2 Typical Junction Capacitance

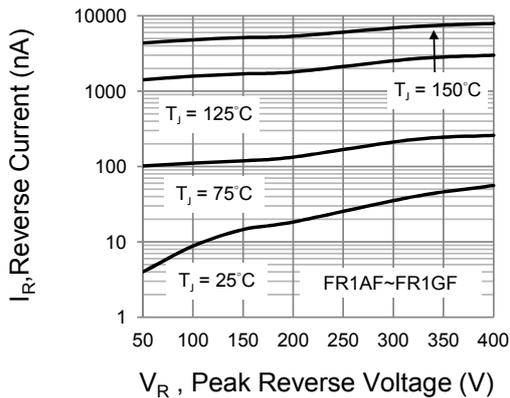


Fig.3 Typical Reverse Characteristics

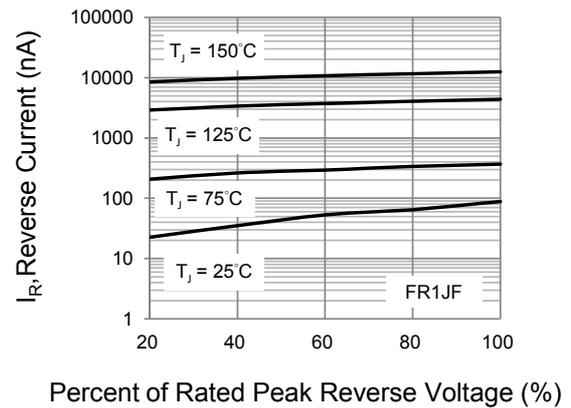


Fig.4 Typical Reverse Characteristics

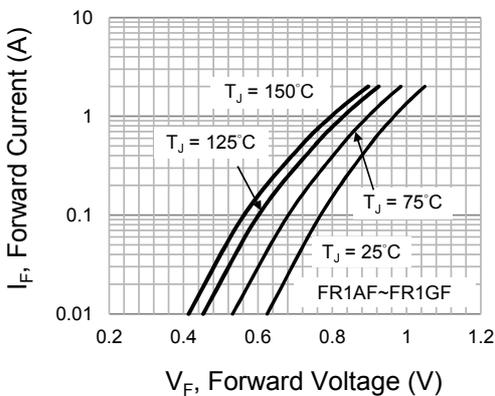


Fig.5 Typical Forward Characteristics

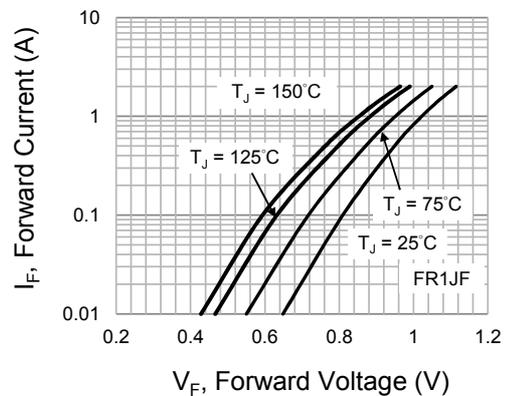
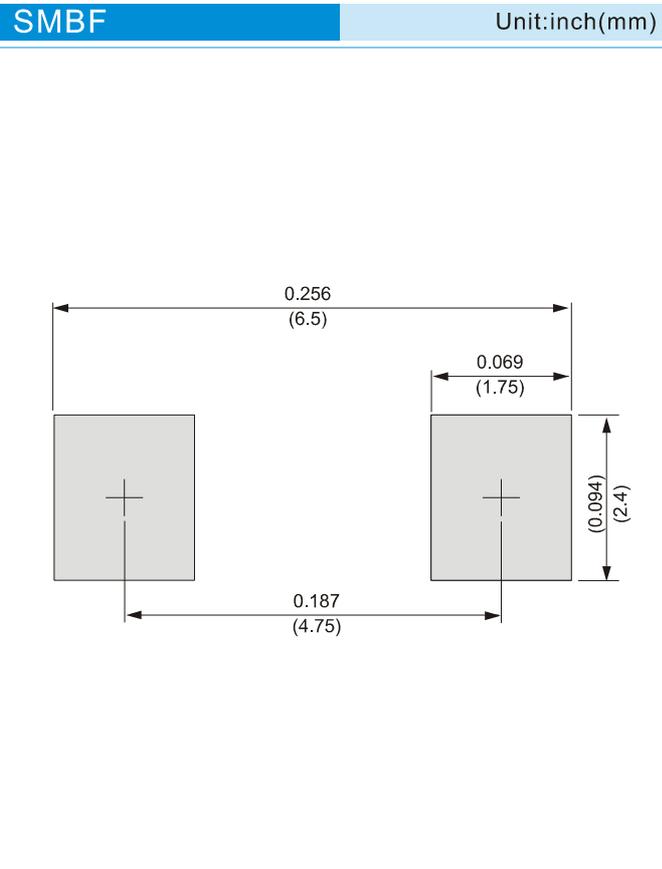


Fig.6 Typical Forward Characteristics



FR1AF SERIES

MOUNTING PAD LAYOUT



ORDER INFORMATION

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



FR1AF SERIES

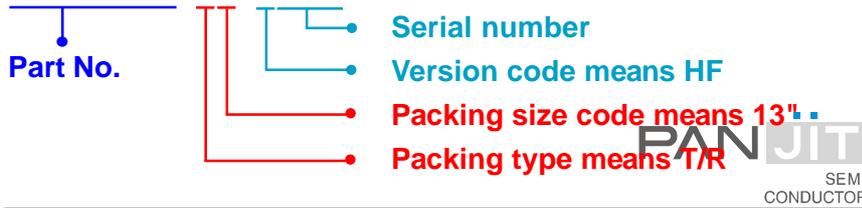
Part No_packing code_Version

FR1AF_R1_00001

FR1AF_R2_00001

For example :

RB500V-40_R2_00001



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
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			



FR1AF SERIES

Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.