



THE DATASHEET OF FR1BTA



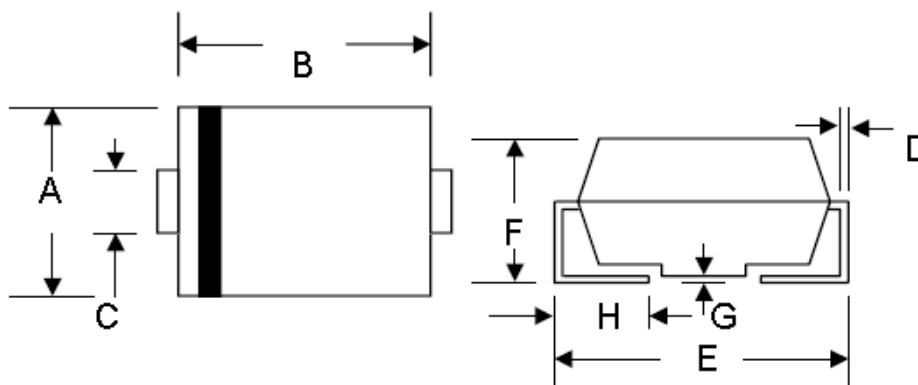
Features:

- Glass Passivated Die Construction
- Ideally Suited for Automatic Assembly
- Low Forward Voltage Drop, High Efficiency
- Low Power Loss
- Fast Recovery Time
- High Current Capability
- Plastic Case Material has UL Flammability Classification Rating 94V-0
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Mechanical Data:

- Case: molded plastic
- Terminals: Plated leads, solderable per MIL-STD-750, Method 2026
- Polarity: Cathode band or Cathode Notch
- Weight:0.093 grams(approx)

Mechanical Dimensions:

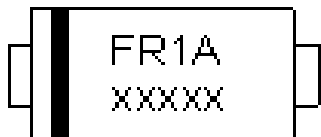


SMB/DO-214AA				
Dim.	Min.	Max.	Min.	Max.
A	3.30	3.94	0.130	0.155
B	4.06	4.70	0.160	0.185
C	1.91	2.11	0.075	0.083
D	0.152	0.305	0.006	0.012
E	5.08	5.59	0.200	0.220
F	2.13	2.44	0.084	0.096
G	0.051	0.203	0.002	0.008
H	0.76	1.27	0.029	0.05
	In mm		In inch	

SMB

Marking Diagram:

Where XXXXX is YYWWL



FR1A = Part Name
YY = Year
WW = Week
L = Lot Number

Cautions: Molding resin
Epoxy resin UL:94V-0

Ordering Information

Device	Package	Shipping
FR1A-FR1K	SMB (Pb-Free)	3000pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification.

Maximum Ratings and Electrical Characteristics @T_A=25°C unless otherwise specified

Characteristic	Symbol	FR1A	FR1B	FR1D	FR1G	FR1J	FR1K	Unit
Peak Repetitive Reverse Voltage DC Blocking Voltage	V_{RRM} V_{DC}	50	100	200	400	600	800	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	V
Average forward rectified output current @T _L = 90°C	I_O	1.0						A
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30						A
Forward Voltage @I _F = 1.0A	V_{FM}	1.30						V
Peak Reverse Current @T _A = 25°C At Rated DC Blocking Voltage @T _A = 100°C	I_{RM}	5.0 300						μA
Reverse recovery time (Note 1)	t_{rr}	150				250	500	ns
Typical Junction Capacitance (Note 2)	C_J	10						pF
Typical Thermal Resistance (Note 3)	$R_{θJL}$	30						K/W
Operating and Storage Temperature Range	T_{STG}	-55 to +150						°C

Note: 1. Reverse recovery condition IF=0.5A, IR=1.0A, Irr=0.25A
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.
3. Leads maintained at ambient temperature at a distance of 9.5mm from the case

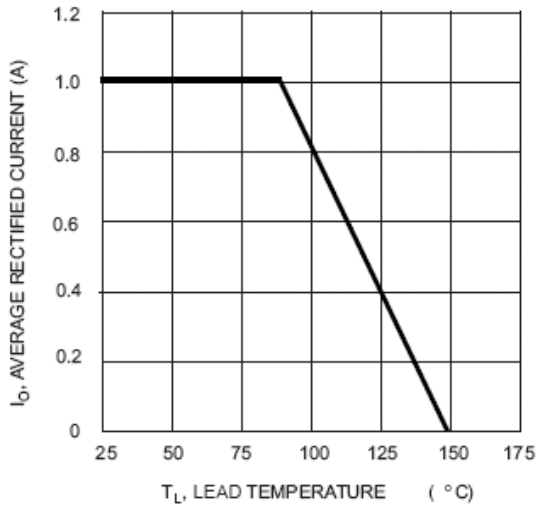


Fig. 1 Forward Current Derating Curve

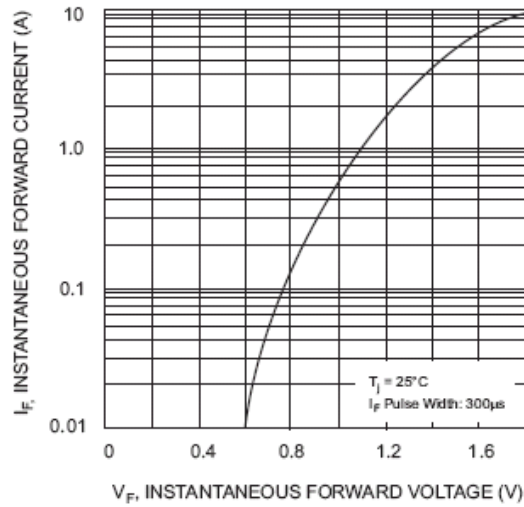


Fig. 2 Typical Forward Characteristics

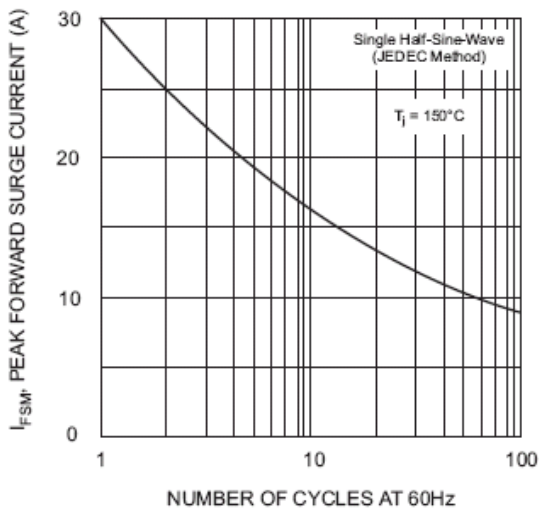


Fig. 3 Forward Surge Current Derating Curve

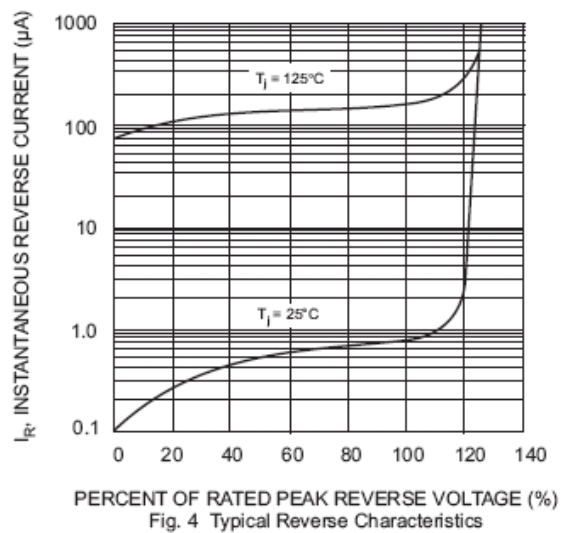
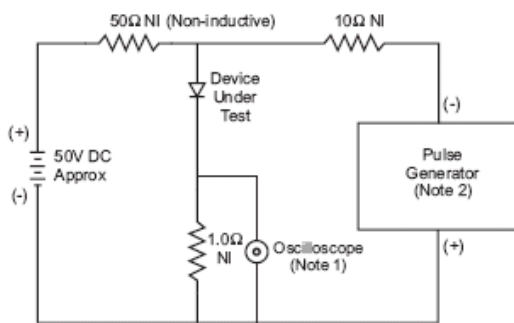


Fig. 4 Typical Reverse Characteristics



Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0M Ω , 22pF.
2. Rise Time = 10ns max. Input Impedance = 50 Ω .

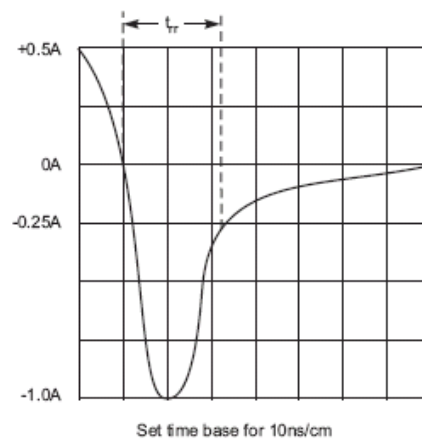


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit



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