

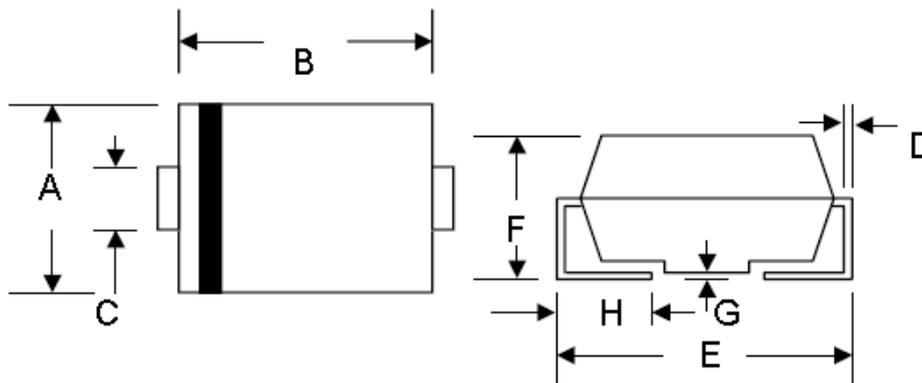
Features:

- 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:



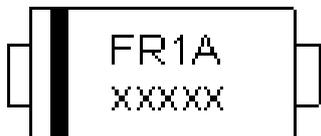
SMB/DO-214AA				
Dim.	Min.	Max.	Min.	Max.
A	3.30	3.94	0.130	0.155
B	4.06	4.70	0.160	0.185
C	1.91	2.11	0.075	0.083
D	0.152	0.305	0.006	0.012
E	5.08	5.59	0.200	0.220
F	2.13	2.44	0.084	0.096
G	0.051	0.203	0.002	0.008
H	0.76	1.27	0.029	0.05
	In mm		In inch	

SMB

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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 @ $T_A=25^\circ\text{C}$ 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 @ $T_L = 90^\circ\text{C}$	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 @ $I_F = 1.0\text{A}$	V_{FM}	1.30						V
Peak Reverse Current @ $T_A = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_A = 100^\circ\text{C}$	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)	$R_{\theta JL}$	30						K/W
Operating and Storage Temperature Range	T_{STG}	-55 to +150						$^\circ\text{C}$

Note: 1. Reverse recovery condition $I_F=0.5\text{A}$, $I_R=1.0\text{A}$, $I_{rr}=0.25\text{A}$
 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

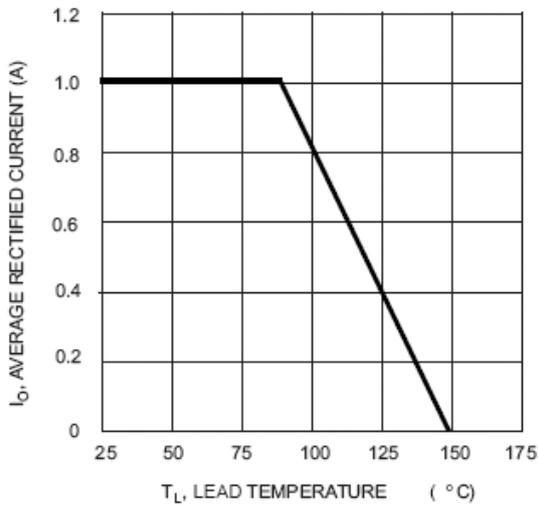


Fig. 1 Forward Current Derating Curve

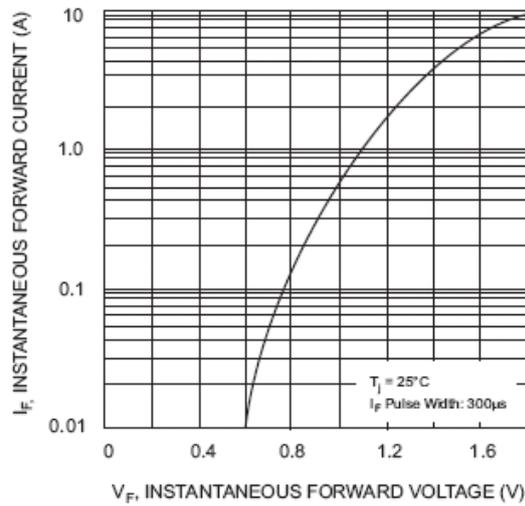


Fig. 2 Typical Forward Characteristics

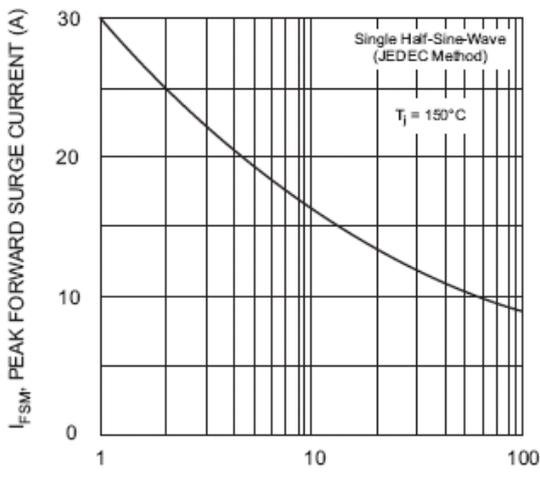


Fig. 3 Forward Surge Current Derating Curve

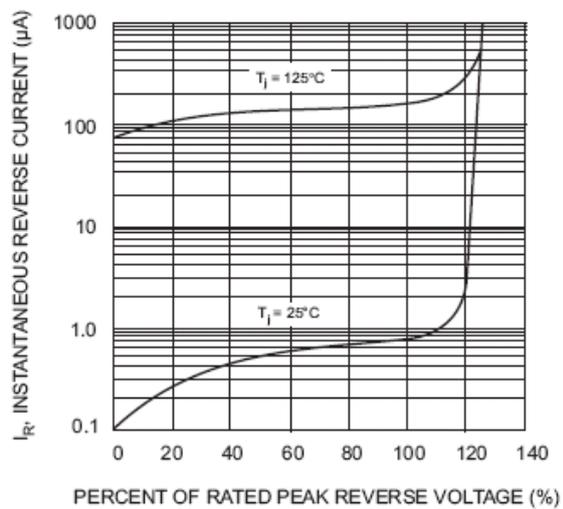
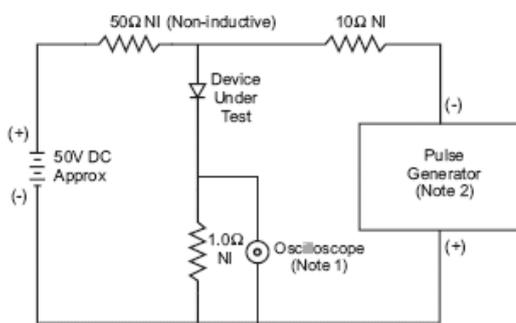


Fig. 4 Typical Reverse Characteristics



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

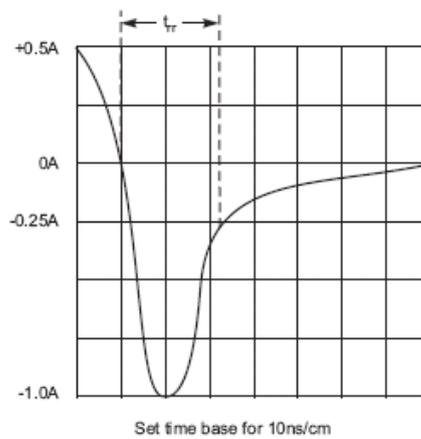


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit



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