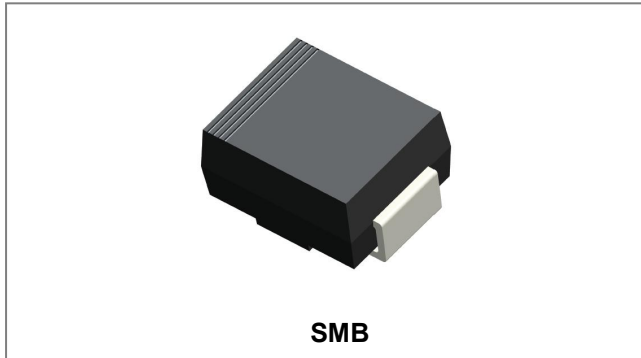


FR2A-FR2M

2.0A SURFACE MOUNT FAST RECOVERY RECTIFIER



Features

- Glass passivated Die Construction
- Ideal Suited for Automatic Assembly
- Low Forward Voltage Drop, High Efficiency
- Low Power Loss
- Fast Recovery Time
- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- This is a Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

Circuit Diagram



Mechanical Data

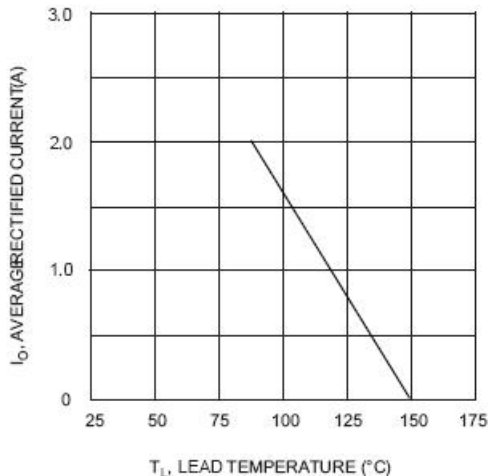
- **Case:** SMB molded plastic
- **Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026
- **Polarity:** Color band denotes cathode end
- **Mounting Position:** Any
- **Weight:** 0.09grams

Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

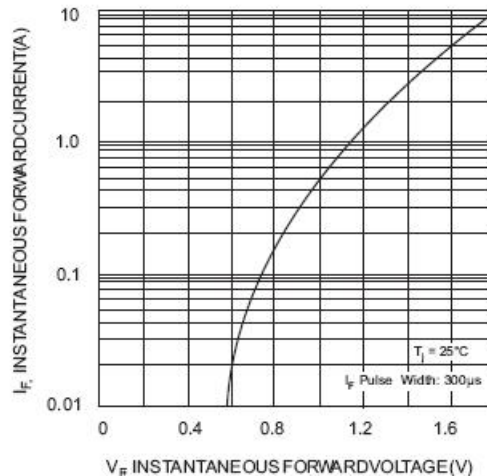
Characteristic	Symbol	FR2A	FR2B	FR2D	FR2G	FR2J	FR2K	FR2M	Units	
Peak Repetitive Reverse Voltage DC Blocking Voltage	V_{RRM} V_{DC}	50	100	200	400	600	800	1000	V	
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V	
Average forward rectified output current @ $T_L = 90^\circ\text{C}$	$I_{(AV)}$	2.0							A	
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	50							A	
Forward Voltage @ $I_F = 2.0\text{A}$	V_{FM}	1.30							V	
Peak Reverse Current @ $T_A = 25^\circ\text{C}$ At Rated DC Blocking Voltage @ $T_A = 125^\circ\text{C}$	I_{RM}	5.0 300.0							μA	
Reverse recovery time (Note 1)	t_{rr}	150				250		500		ns
Typical Junction Capacitance (Note 2)	C_J	50							pF	
Typical Thermal Resistance (Note 3)	$R_{\theta JL}$	20							$^\circ\text{C/W}$	
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. Mounted on P.C.B Board with 8.0mm² land area.

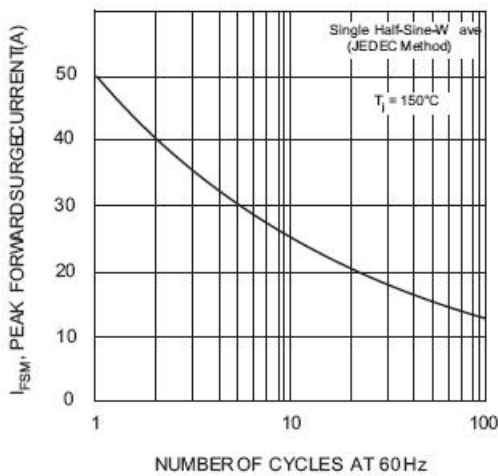
Ratings and Characteristics Curves



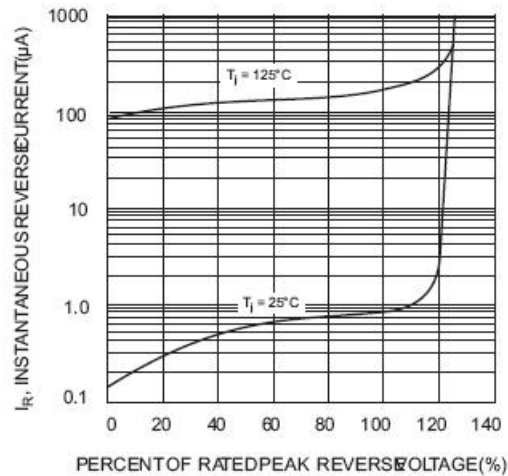
T_L , LEAD TEMPERATURE (°C)
Fig. 1 Forward Current Derating Curve



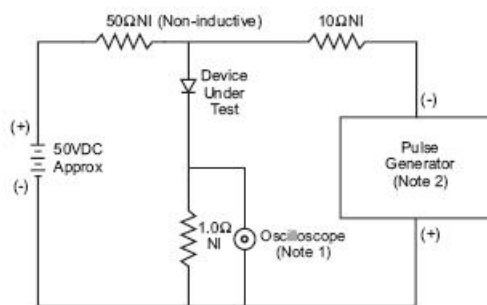
V_F INSTANTANEOUS FORWARD VOLTAGE (V)
Fig. 2 Typical Forward Characteristics



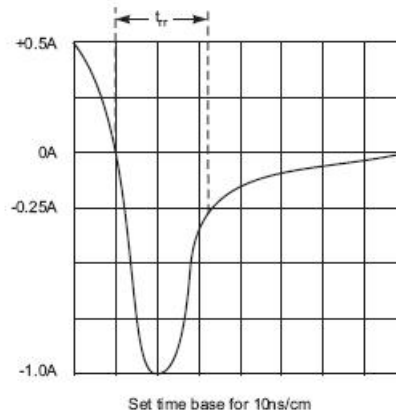
NUMBER OF CYCLES AT 60Hz
Fig. 3 Forward Surge Current Derating Curve



PERCENT OF RATED PEAK REVERSE VOLTAGE (%)
Fig. 4, Typical Reverse Characteristics

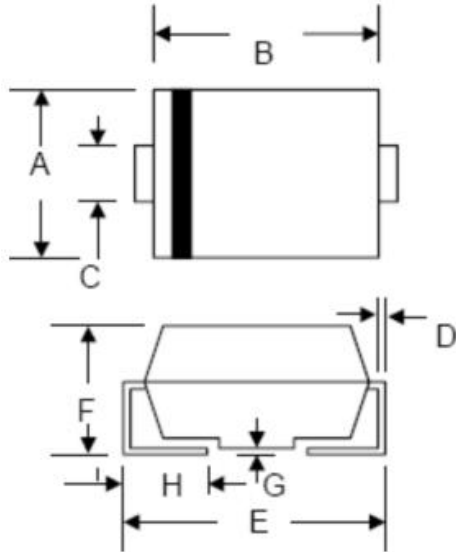


Notes:
1. Rise Time= 7.0ns max. Input Impedance= 1.0M Ω , 2pF.
2. Rise Time= 10ns max. Input Impedance= 50 Ω .



Set time base for 10ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

Mechanical Dimensions SMB


SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.30	3.94	0.130	0.155
B	4.06	4.70	0.160	0.185
C	1.80	2.20	0.071	0.087
D	0.152	0.305	0.006	0.012
E	4.80	5.59	0.189	0.220
F	2.10	2.60	0.083	0.102
G	0.051	0.203	0.002	0.008
H	0.76	1.52	0.030	0.060

Ordering Information

Device	Package	Shipping
FR2A-FR2M	SMB	3000pcs / reel

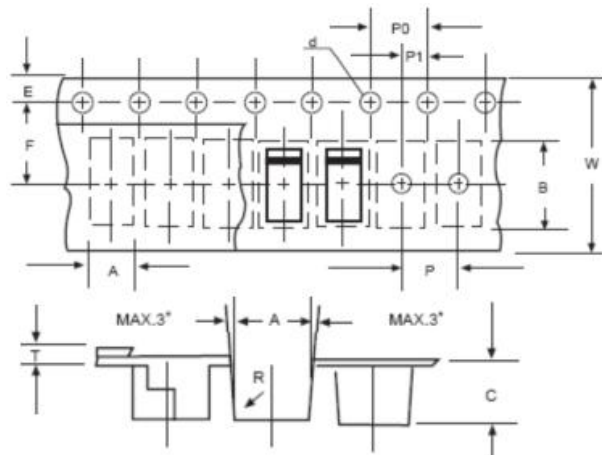
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Marking Diagram


Where XXXXX is YYWWL

- FR2A = Part Name
- YY = Year
- WW = Week
- L = Lot Number

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

Carrier Tape & Reel Specification SMB


SYMBOL	Millimeters	
	Min.	Max.
A	3.99	4.19
B	5.72	5.92
C	3.23	3.43
d	1.40	1.60
E	1.40	1.60
F	5.60	5.70
P	7.90	8.10
P0	3.90	4.10
P1	1.90	2.10
T	-	0.60
W	11.80	12.20

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