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With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

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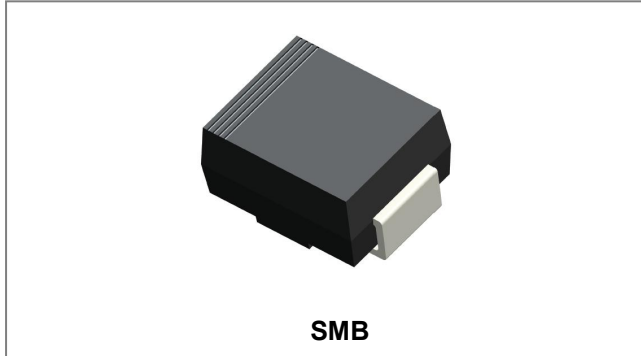
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## FR2A-FR2M

### 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

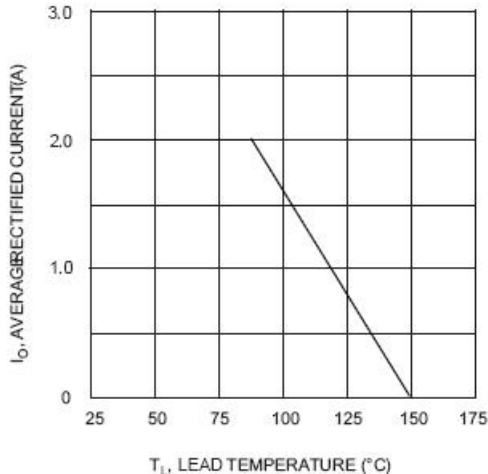
#### Maximum Ratings and Electrical Characteristics @ $T_A=25^\circ\text{C}$ unless otherwise specified

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							$\mu\text{A}$
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							$^\circ\text{C}$

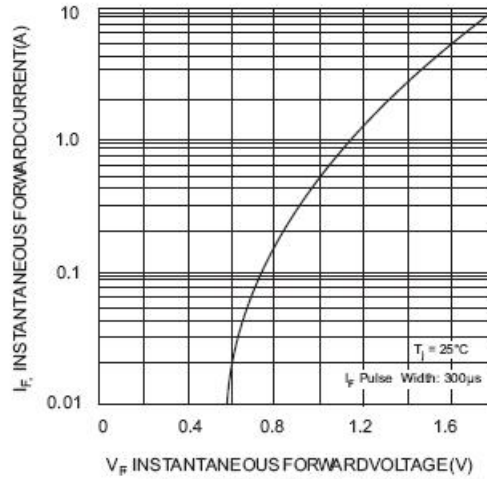
Note: 1. Reverse recovery condition  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$   
 2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
 3. Mounted on P.C.B Board with 8.0mm<sup>2</sup> land area.

- China - Germany - Korea - Singapore - United States
- <http://www.smc-diodes.com> - [sales@smc-diodes.com](mailto:sales@smc-diodes.com)

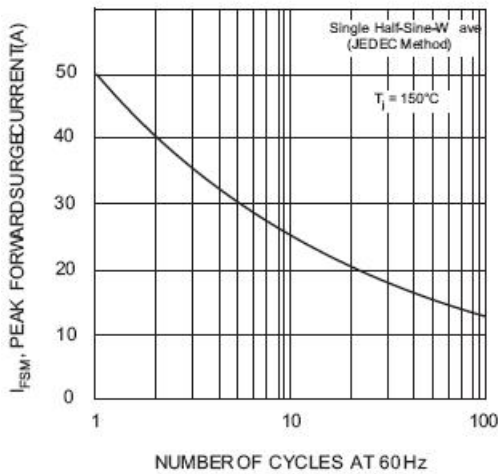
**Ratings and Characteristics Curves**



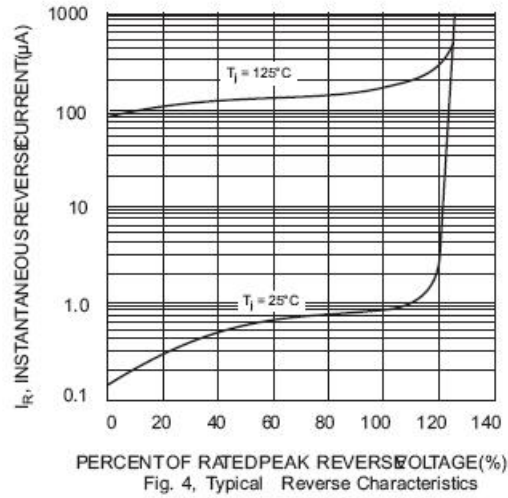
$T_L$ , LEAD TEMPERATURE (°C)  
Fig. 1 Forward Current Derating Curve



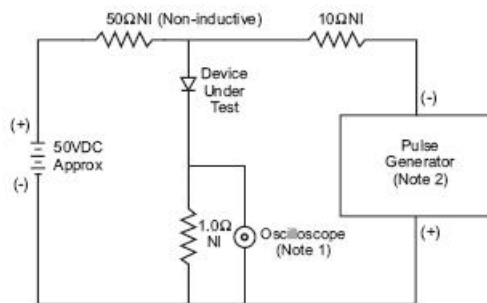
$V_F$  INSTANTANEOUS FORWARD VOLTAGE (V)  
Fig. 2 Typical Forward Characteristics



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

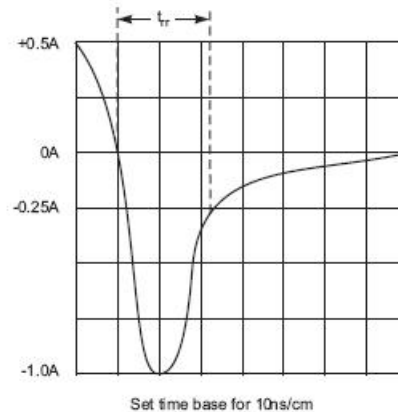


PERCENT OF RATED PEAK REVERSE VOLTAGE (%)  
Fig. 4, Typical Reverse Characteristics

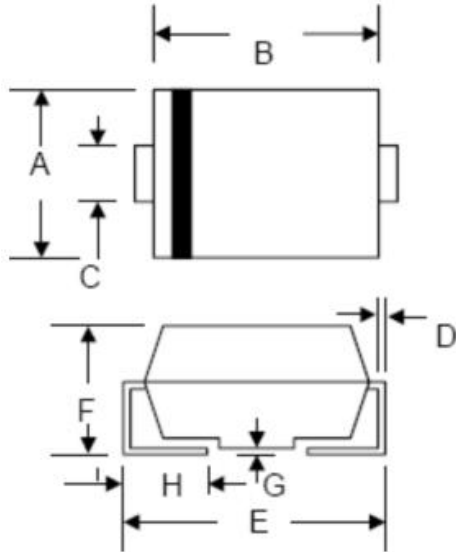


Notes:  
1. Rise Time= 7.0ns max. Input Impedance= 1.0M  $\Omega$ , 2pF.  
2. Rise Time= 10ns max. Input Impedance= 50  $\Omega$ .

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit



Set time base for 10ns/cm

**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

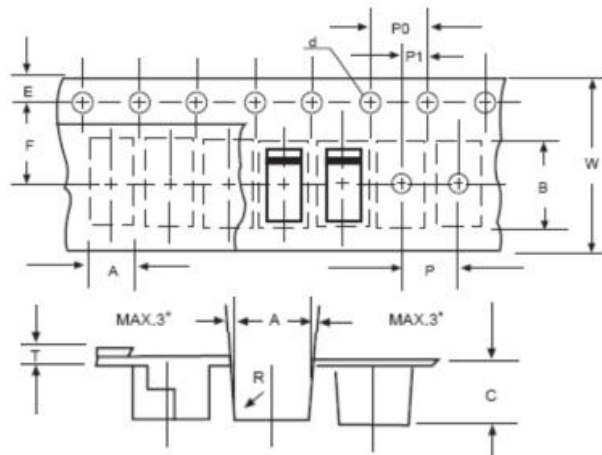
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

**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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