THE DATASHEET OF

FR2A

Technical Data
Data Sheet N0439, Rev. A

FR2A-FR2M
2.0A SURFACE MOUNT FAST RECOVERY RECTIFIER

SMB

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°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°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 =2.0A	V_{FM}	1.30							V
Peak Reverse Current @T_A = 25°C At Rated DC Blocking Voltage @T_A = 125°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							°C/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. Mounted on P.C.B Board with 8.0mm² land area.

Ratings and Characteristics Curves

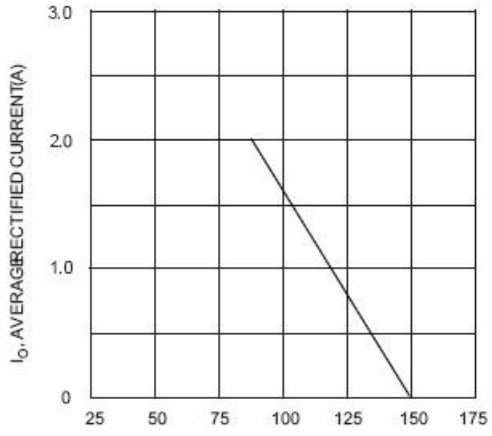


Fig. 1 Forward Current Derating Curve

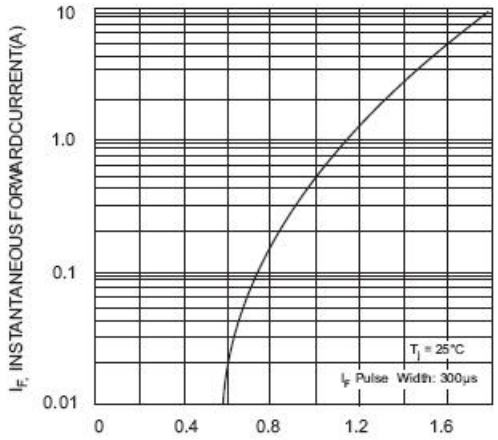


Fig. 2 Typical Forward Characteristics

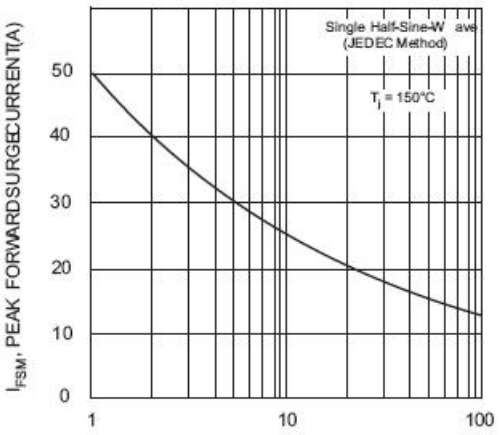


Fig. 3 Forward Surge Current Derating Curve

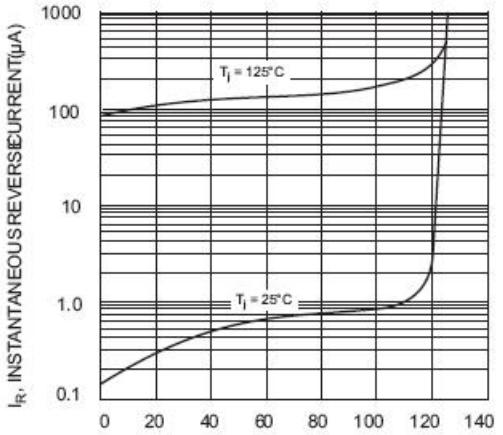
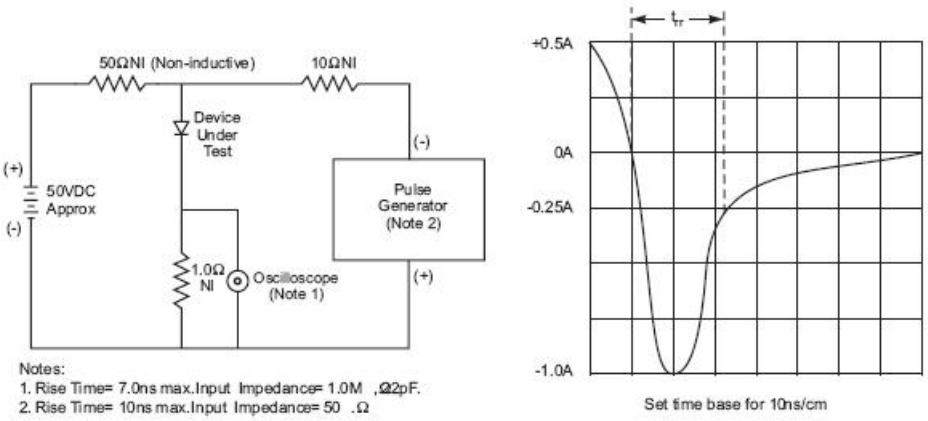


Fig. 4, Typical Reverse Characteristics



Notes:
1. Rise Time= 7.0ns max.Input Impedance= 1.0M ,Ω22pF.
2. Rise Time= 10ns max.Input Impedance= 50 .Ω

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

FR2A-FR2K

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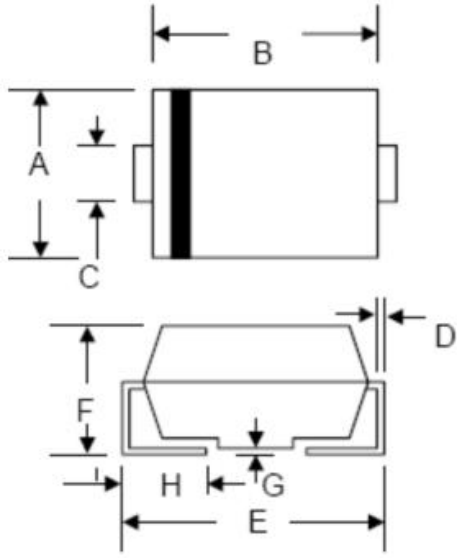
Mechanical Dimensions SMB



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.

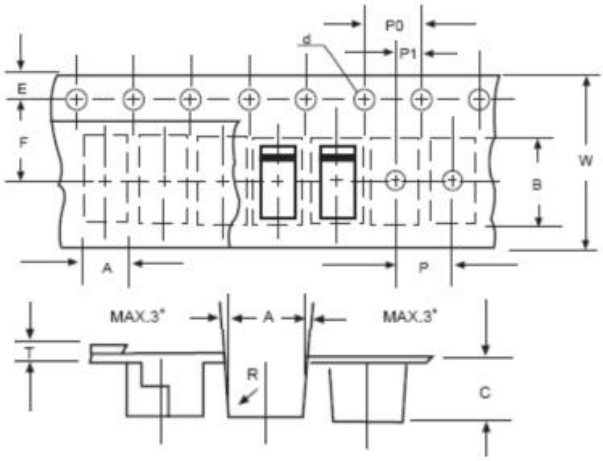
Marking Diagram

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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