



**THE DATASHEET OF
FR1M-13**



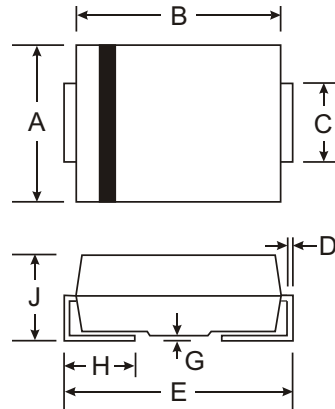
NOT RECOMMENDED FOR NEW DESIGNS,
PLEASE USE RS1AB - RS1MB

Features

- For Surface Mounted Applications
- Capable of Meeting Environmental Standards of MIL-STD-19500
- Plastic Material - UL Flammability Classification 94V-0
- High Reliability
- Submersible Temperature of 265 °C for 10 Seconds in Solder Bath
- Glass Passivated Junction

Mechanical Data

- Case: SMB, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Approx. Weight: 0.093 grams
- Mounting Position: Any



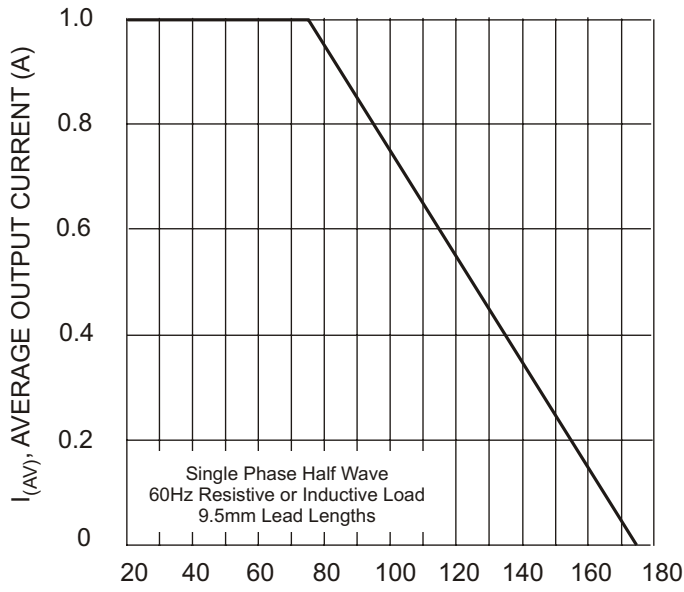
SMB		
Dim	Min	Max
A	3.30	3.94
B	4.00	4.65
C	1.95	2.21
D	0.15	0.40
E	5.00	6.00
G	0.10	0.20
H	0.76	1.52
J	2.00	2.62
All Dimensions in mm		

Maximum Ratings and Electrical Characteristics

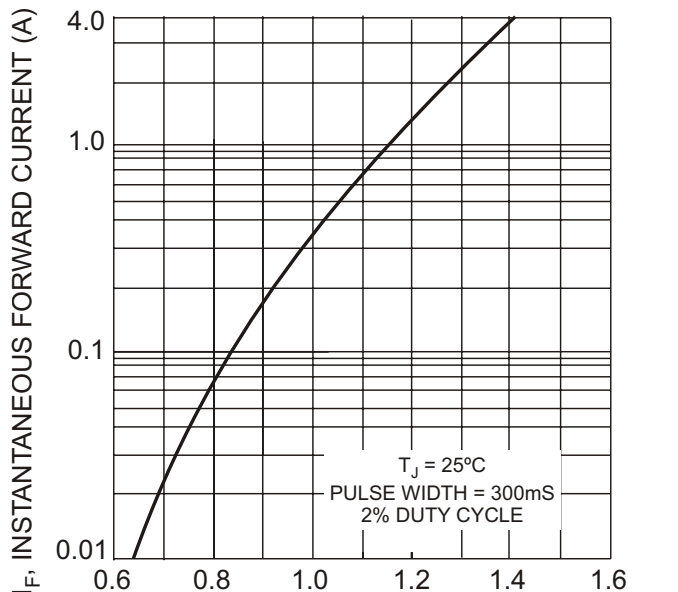
Ratings at 25°C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz resistive or inductive load.

Characteristic	Unit	FR1A	FR1B	FR1D	FR1G	FR1J	FR1K	FR1M	Unit
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current @ $T_A = 75^\circ\text{C}$	$I_{(AV)}$	1.0							A
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	30							A
Maximum Instantaneous Forward Voltage at 1.0 A	V_F	1.3							V
Maximum DC Reverse Current at Rated DC Blocking Voltage @ $T_A = 25^\circ\text{C}$ @ $T_A = 125^\circ\text{C}$	I_R	5.0							μA
Maximum Full Load Reverse Current Full Cycle Average @ $T_A = 75^\circ\text{C}$		50							μA
Maximum Reverse Recovery Time (See Note 1)	t_{rr}	150			250	500	500	ns	
Maximum Thermal Resistance (See Note 2)	$R_{\theta JL}$	30							$^\circ\text{C}/\text{W}$
Typical Junction Capacitance (See Note 3)	C_J	15							pF
Operating and Storage Temperature Rating	T_J, T_{STG}	-65 to +175							$^\circ\text{C}$

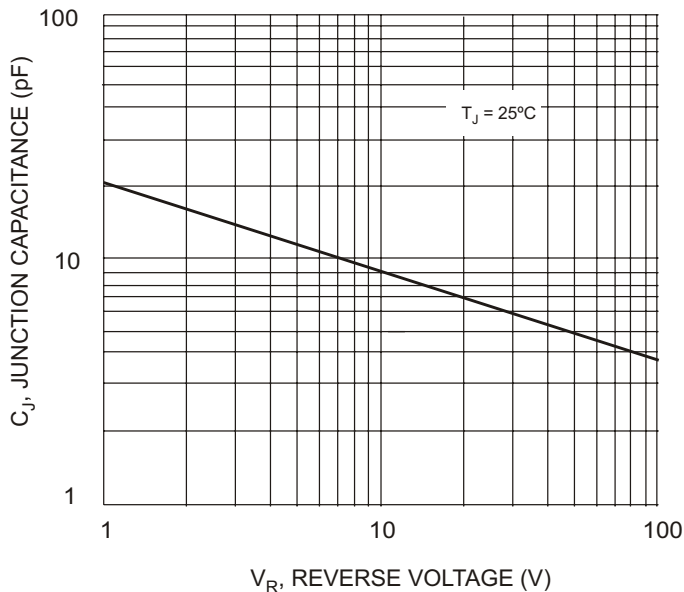
- Notes:
1. Reverse Recovery Test Conditions: $I_F = 0.5\text{A}$, $I_R = 1\text{A}$, $I_{RR} = 0.25\text{A}$
 2. Thermal Resistance from junction to lead with 6.0mm² copper pads
 3. Measured at 1.0MHz and applied reverse voltage of 4.0V



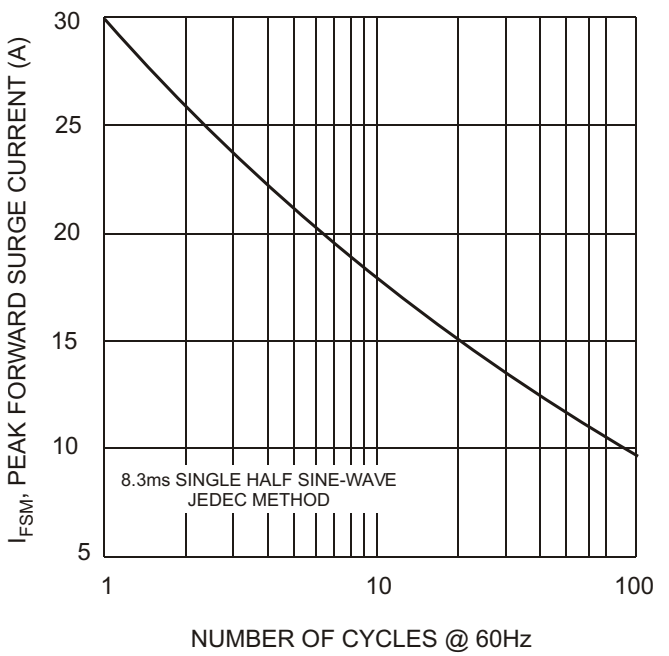
T_A , AMBIENT TEMPERATURE ($^{\circ}C$)
Fig. 1, Forward Current Derating Curve



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





V_R , REVERSE VOLTAGE (V)
Fig. 3, Capacitance Characteristics



NUMBER OF CYCLES @ 60Hz
Fig. 4, Max Non-Repetitive Peak Forward Surge Current

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