FR1AAFC ~ FR1MAFC Series

Surface Mount Fast Recovery Rectifier

Voltage 50~1000 V **Current** 1 A

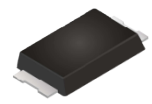
Features

- Glass passivated chip junction
- Fast reverse recovery time
- Low forward voltage drop
- Low switching losses, high efficiency
- High forward surge capability
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

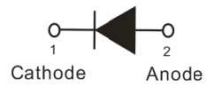
Mechanical Data

- Case : Molded plastic, SMAF-C
- Terminals : Solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.0012 ounces, 0.034 grams

SMAF-C







Maximum Ratings and Thermal Characteristics (T_A = 25°C unless otherwise noted)

PARAMETER	SYMBOL	FR1AAFC	FR1BAFC	FR1DAFC	FR1GAFC	FR1JAFC	FR1KAFC	FR1MAFC	UNITS
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_R	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	1							A
Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load	I_{FSM}	30							A
Instantaneous Forward Voltage at 1A	V_F	1.3							V
Reverse Current T_J =25 °C T_J =125 °C	I_R	1 150							uA
Typical Junction Capacitance Measured at 1 MHz And Applied V_R = 4V	C_J	15				7			pF
Reverse Recovery Time(Note 1)	T_{RR}	150				250	500		ns
Typical Thermal Resistance (Note 2) (Note 3)	$R_{\theta JL}$ $R_{\theta JA}$	31 150							°C/W
Operating Junction Temperature Range	T_J	-55 to +150							°C
Storage Temperature Range	T_{STG}	-55 to +150							°C

NOTES:

1. Reverse Recovery Test Conditions: I_F=0.5A, I_R=1A, Recover to 0.25A
2. Mounted on a FR4 PCB, single-sided copper, with 48cm^2 copper pad area
3. Mounted on a FR4 PCB, single-sided copper, standard footprint

FR1AAFC ~ FR1MAFC Series

TYPICAL CHARACTERISTIC CURVES

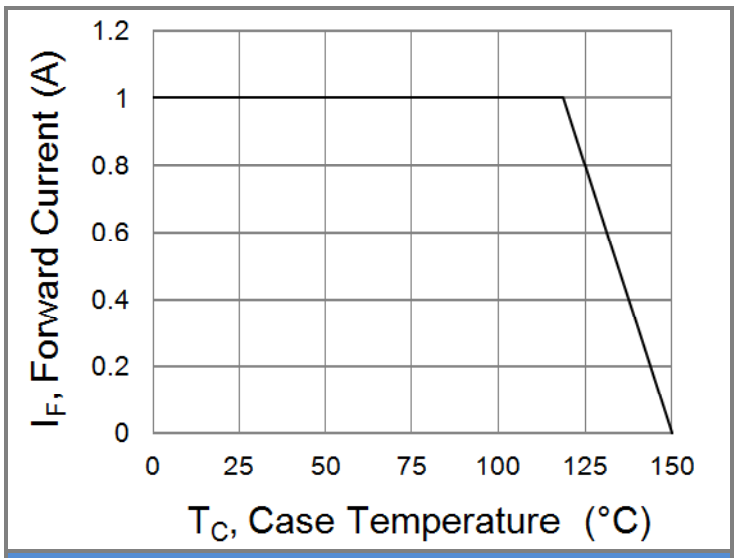


Fig.1 Forward Current Derating Curve

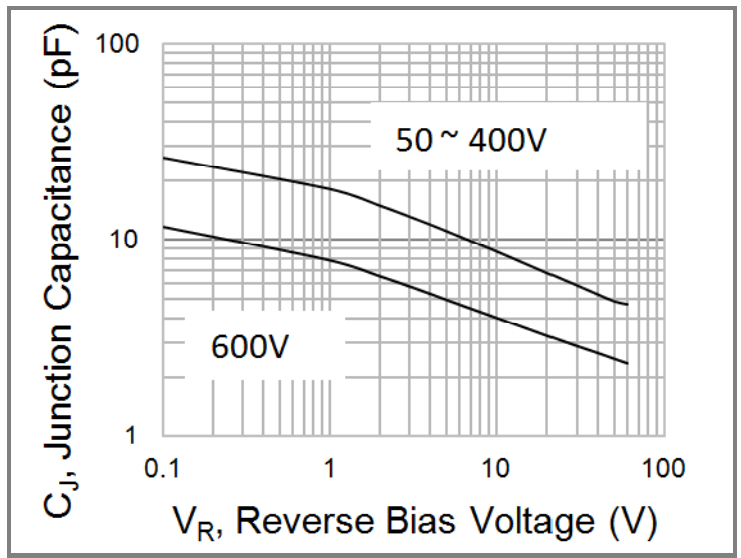


Fig. 2 Typical Junction Capacitance

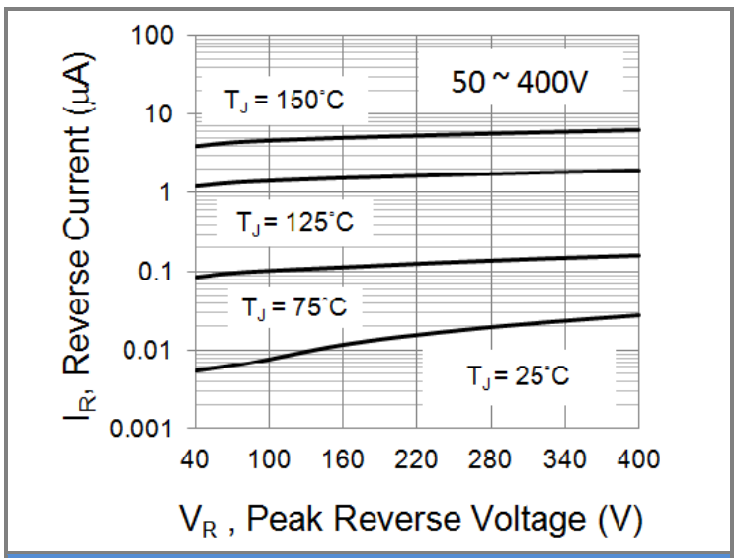


Fig.3 Typical Reverse Characteristics

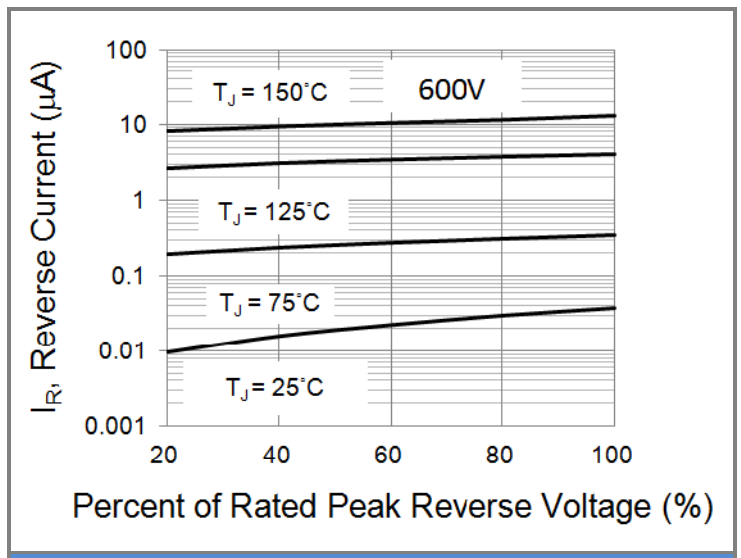


Fig.4 Typical Reverse Characteristics

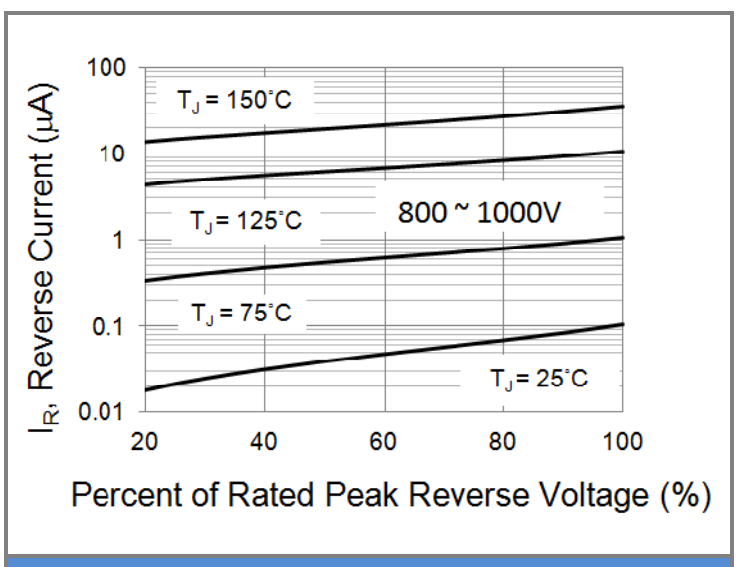


Fig.5 Typical Reverse Characteristics

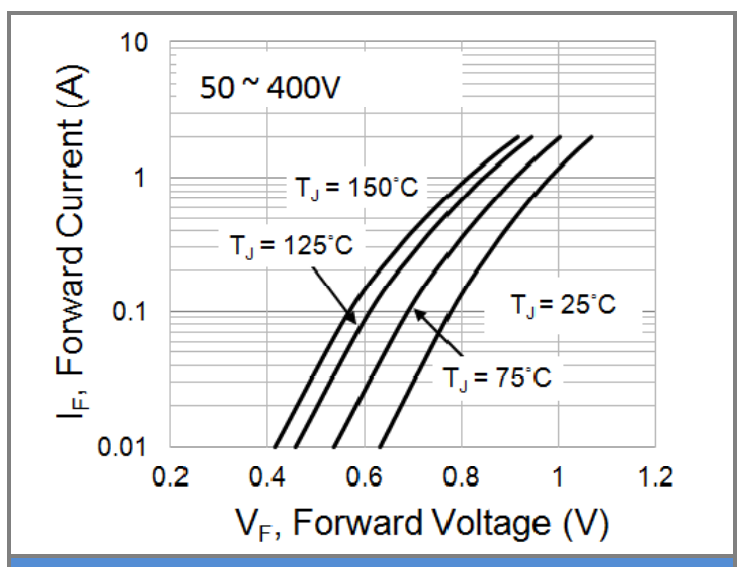


Fig.6 Typical Forward Characteristics

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TYPICAL CHARACTERISTIC CURVES

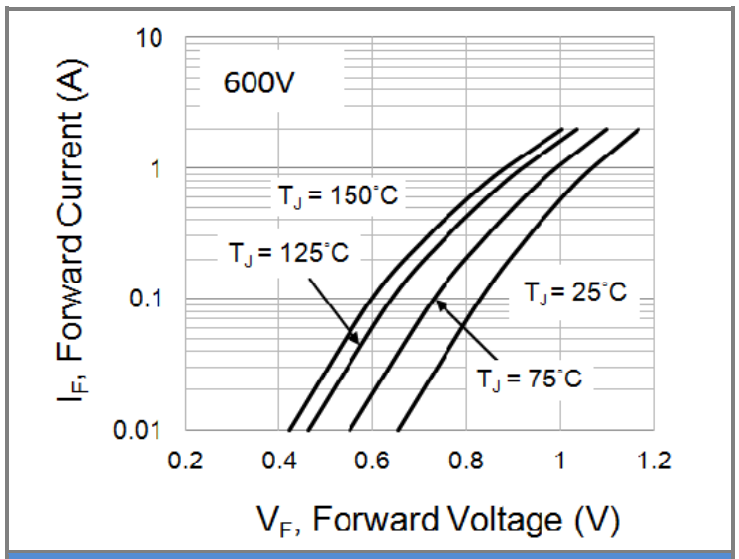


Fig.7 Typical Forward Characteristics

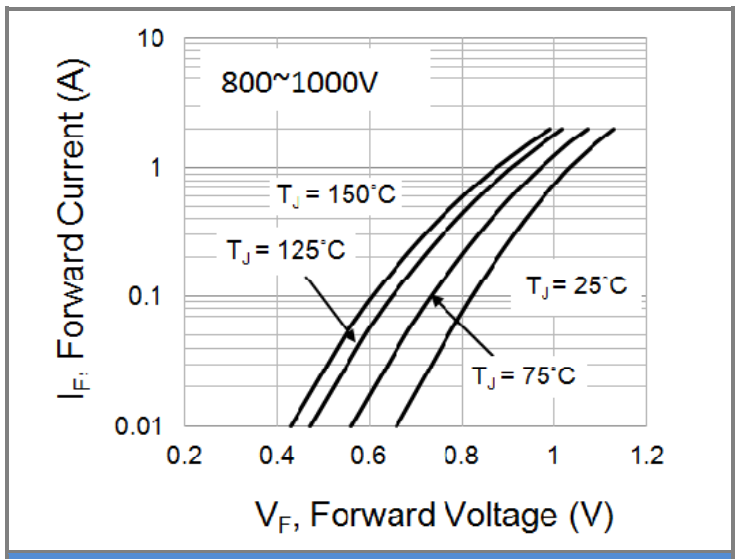


Fig.8 Typical Forward Characteristics

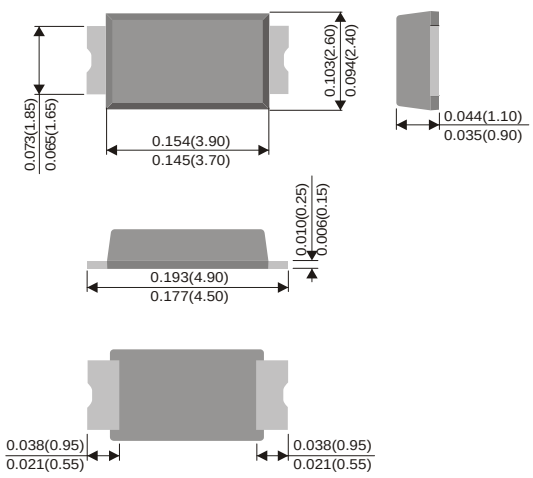
FR1AAFC ~ FR1MAFC Series

Part No. Packing Code Version

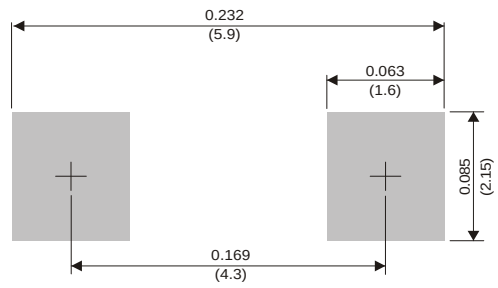
Part No. Packing Code	Package Type	Packing Type	Marking	Version
FR1AAFC_R1_00001	SMAF-C	3K pcs / 7” reel	FR1A	Halogen free
FR1BAFC_R1_00001	SMAF-C	3K pcs / 7” reel	FR1B	Halogen free
FR1DAFC_R1_00001	SMAF-C	3K pcs / 7” reel	FR1D	Halogen free
FR1GAFC_R1_00001	SMAF-C	3K pcs / 7” reel	FR1G	Halogen free
FR1JAFC_R1_00001	SMAF-C	3K pcs / 7” reel	FR1J	Halogen free
FR1KAFC_R1_00001	SMAF-C	3K pcs / 7” reel	FR1K	Halogen free
FR1MAFC_R1_00001	SMAF-C	3K pcs / 7” reel	FR1M	Halogen free

Packaging Information & Mounting Pad Layout

SMAF-C Dimension — Unit: inch(mm)



SMAF-C Pad Layout — Unit: inch(mm)



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