



FR1AAFC ~ FR1MAFC Series

Surface Mount Fast Recovery Rectifier

Voltage

50~1000 V

Current

1 A

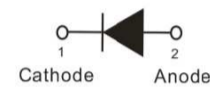
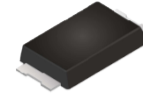
Features

- 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)	R _{θJL}	31							°C/W
^(Note 3)	R _{θJA}	150							
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 48cm² copper pad area
3. Mounted on a FR4 PCB, single-sided copper, standard footprint



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TYPICAL CHARACTERISTIC CURVES

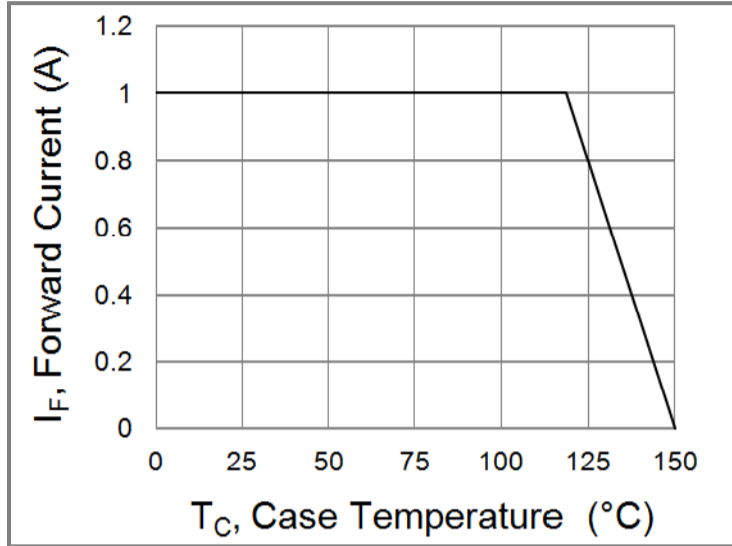


Fig.1 Forward Current Derating Curve

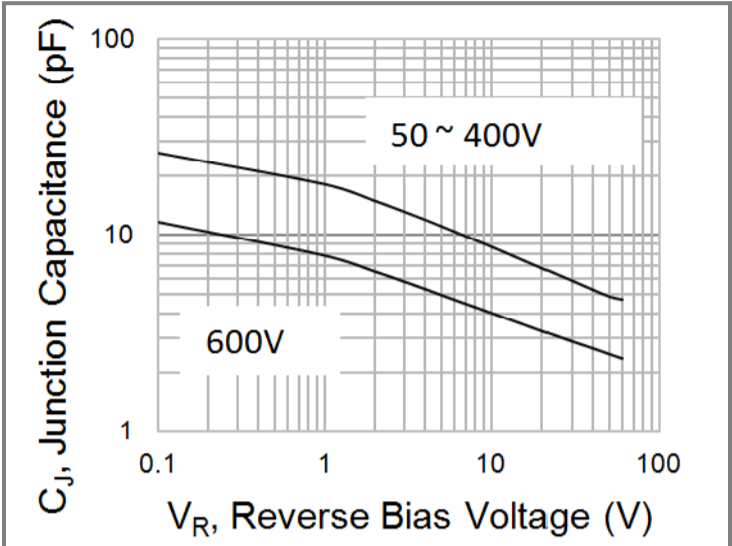


Fig. 2 Typical Junction Capacitance

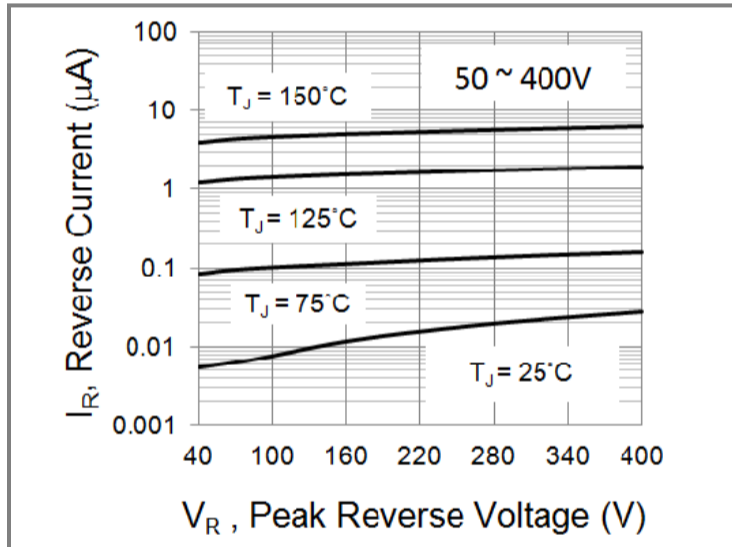


Fig.3 Typical Reverse Characteristics

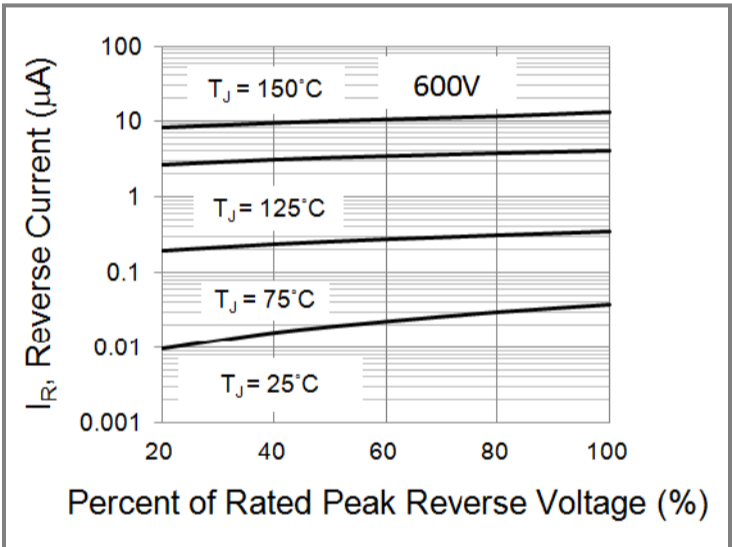


Fig.4 Typical Reverse Characteristics

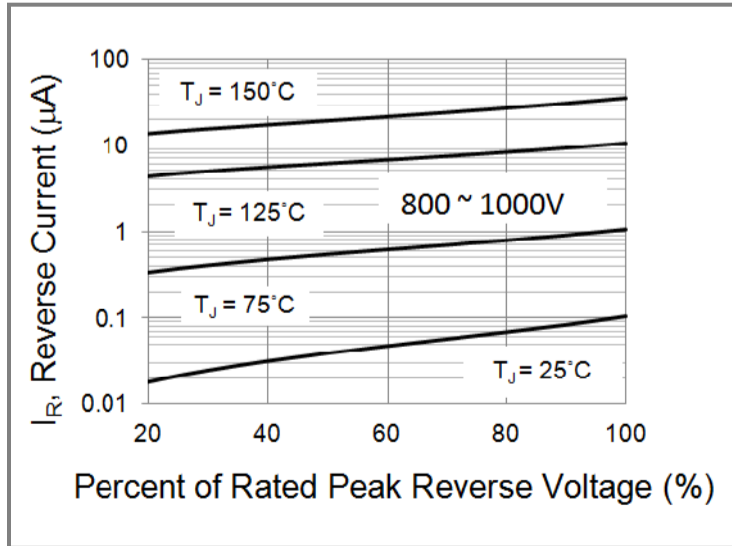


Fig.5 Typical Reverse Characteristics

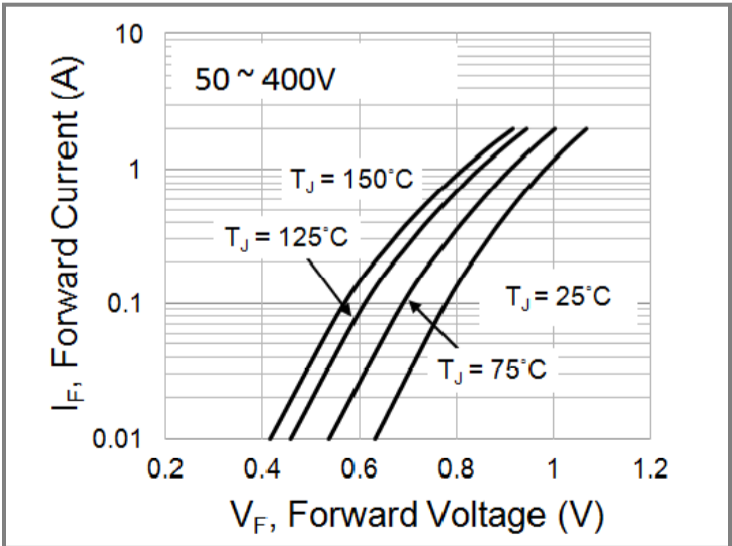


Fig.6 Typical Forward Characteristics



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TYPICAL CHARACTERISTIC CURVES

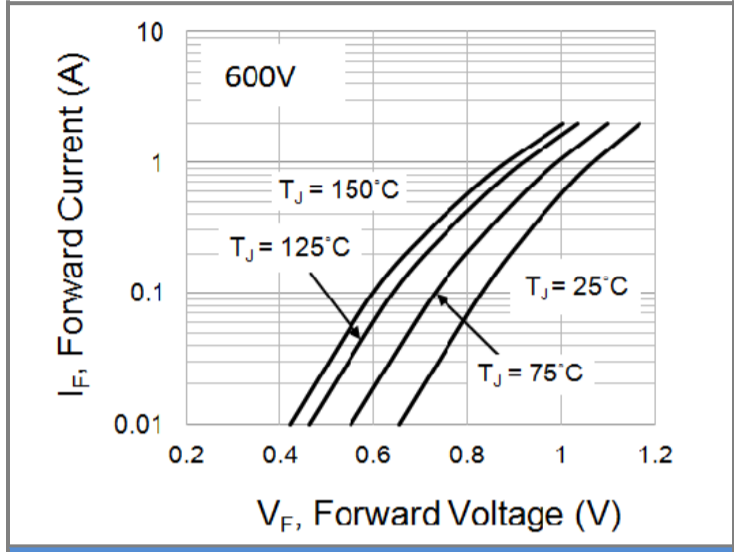


Fig.7 Typical Forward Characteristics

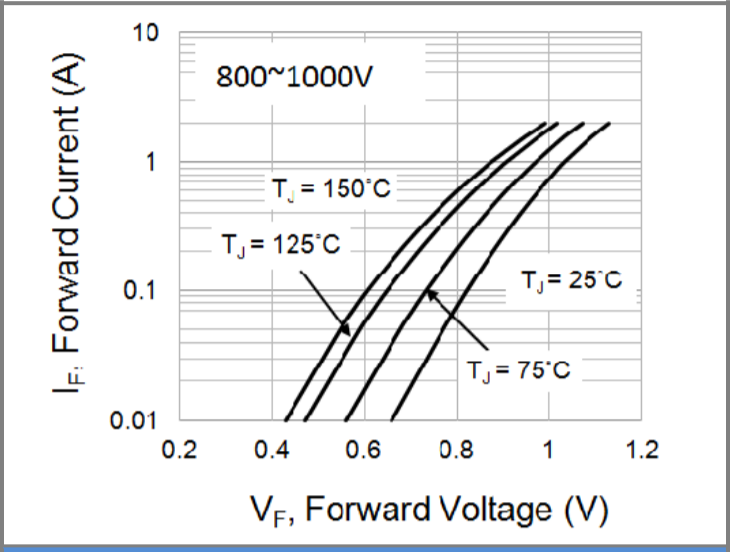


Fig.8 Typical Forward Characteristics

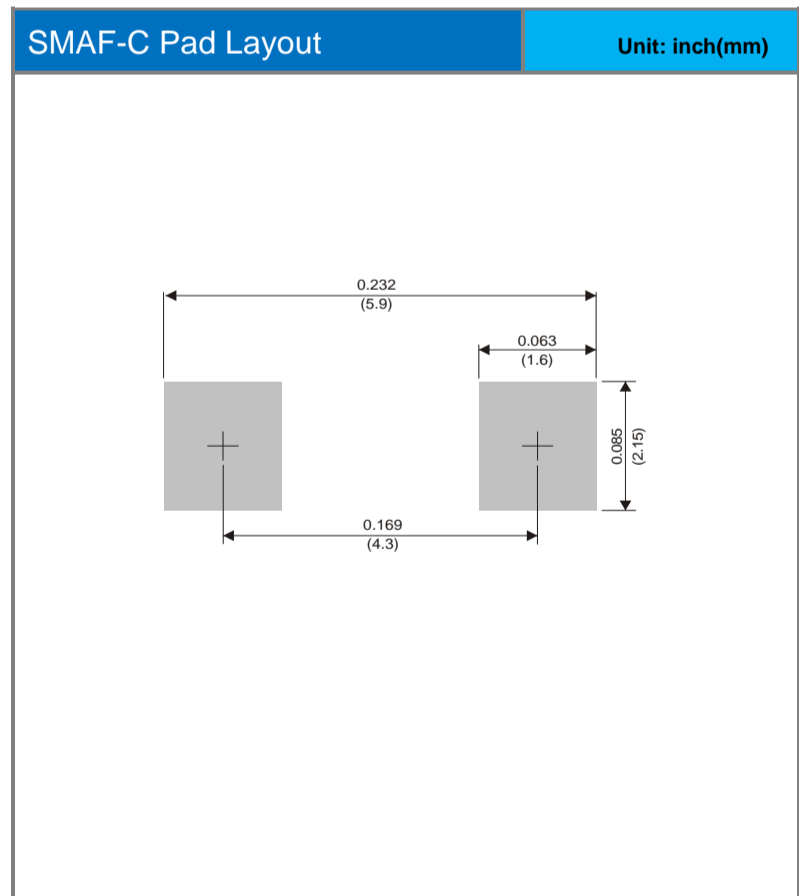
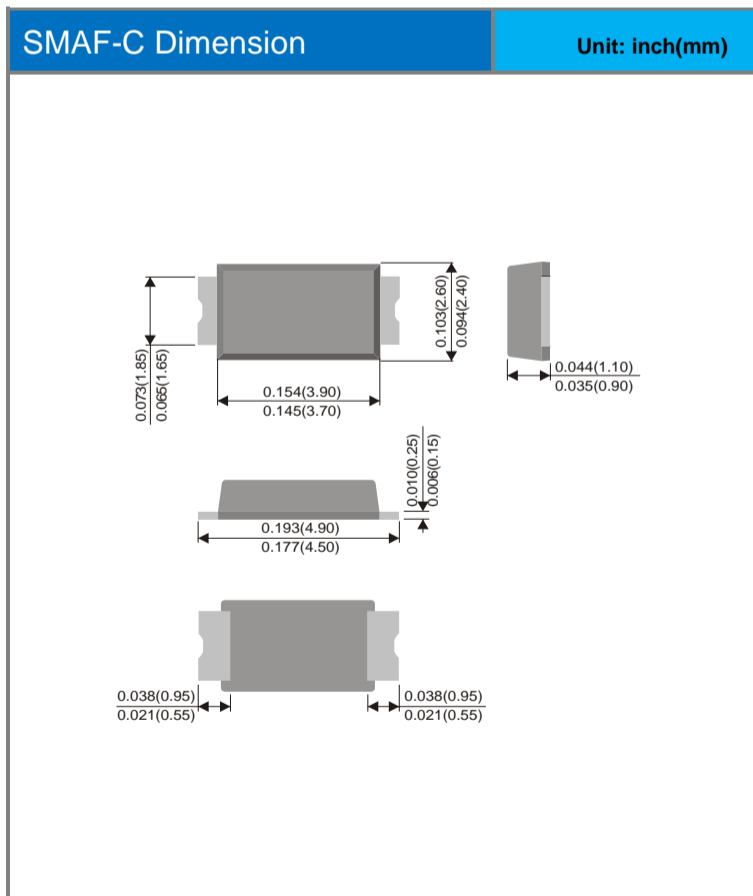


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Part No. Packing Code Version

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





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