



ER1AAFC ~ ER1JAFC Series

Surface Mount Super Fast Recovery Rectifier

Voltage

50~600 V

Current

1 A

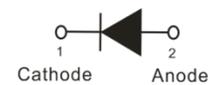
Features

- For surface mounted applications in order to optimize board space
- High temperature metallurgically bonded-no compression contacts as found in other diode-constructed rectifiers
- Glass passivated junction
- Easy pick and place
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- 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	ER1AAFC	ER1BAFC	ER1CAFC	ER1DAFC	ER1EAFC	ER1GAFC	ER1JAFC	UNITS
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	50	100	150	200	300	400	600	V
Maximum RMS Voltage	V _{RMS}	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage	V _R	50	100	150	200	300	400	600	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	0.95				1.25		1.7	V
Reverse Current	I _R	1							uA
Typical Junction Capacitance Measured at 1 MHz And Applied V _R = 4V	C _J	15							pF
Reverse Recovery Time ^(Note 1)	T _{RR}	35							ns
Typical Thermal Resistance	^(Note 2) R _{θJL}	24							°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

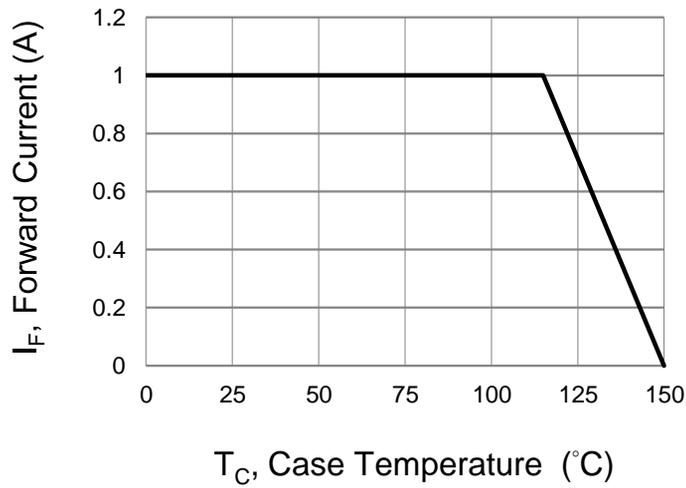


Fig.1 Forward Current Derating Curve

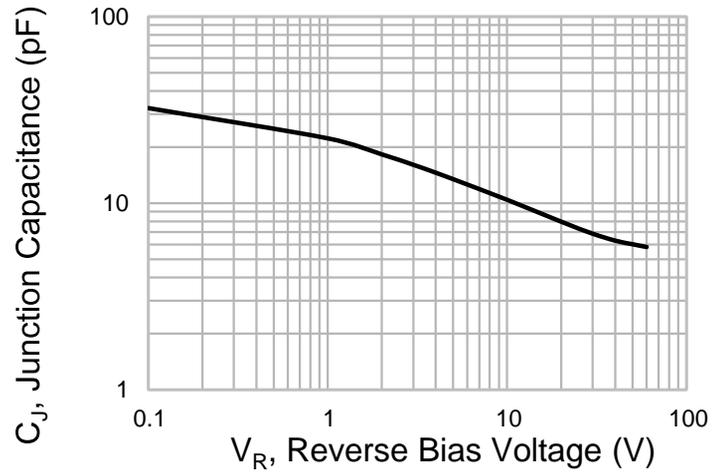


Fig.2 Typical Junction Capacitance

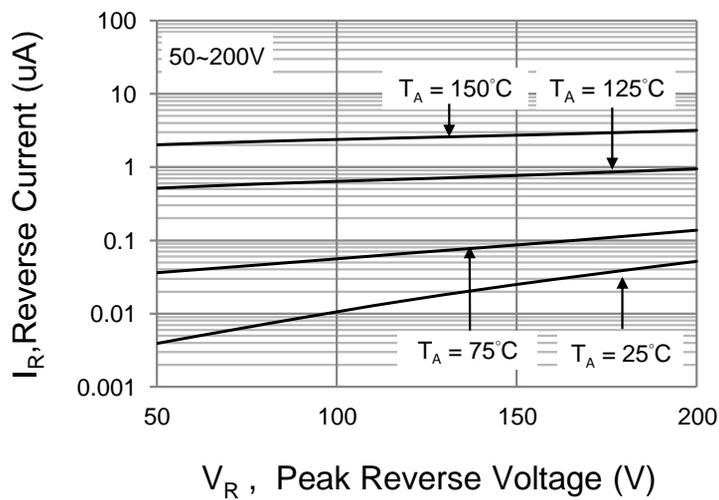


Fig.3 Typical Reverse Characteristics

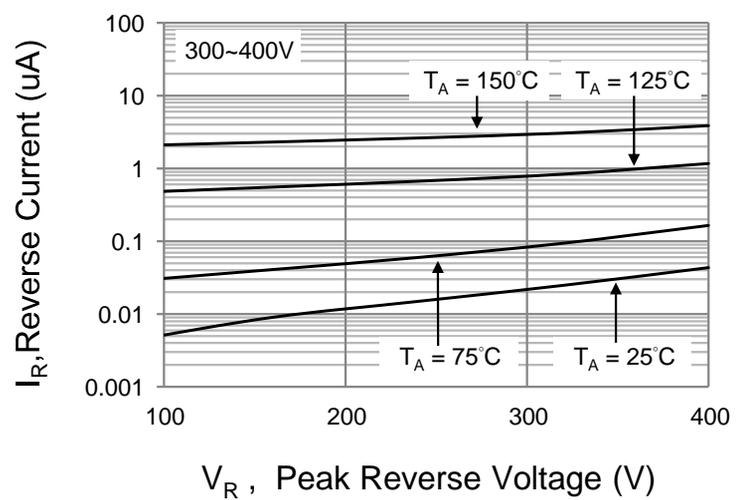


Fig.4 Typical Reverse Characteristics

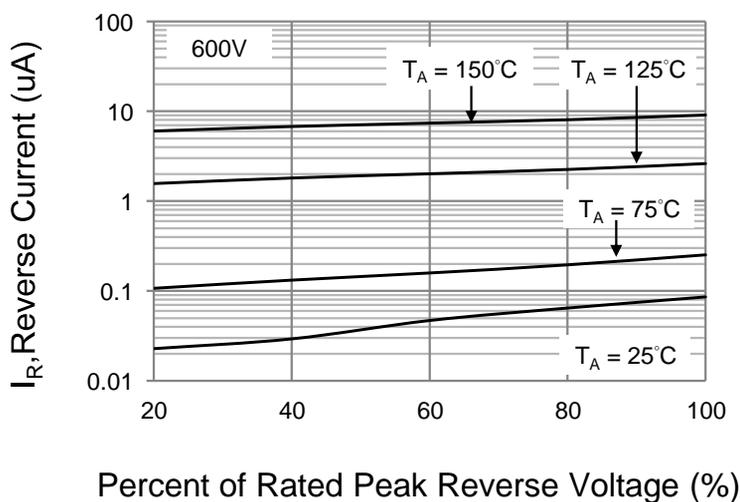


Fig.5 Typical Reverse Characteristics

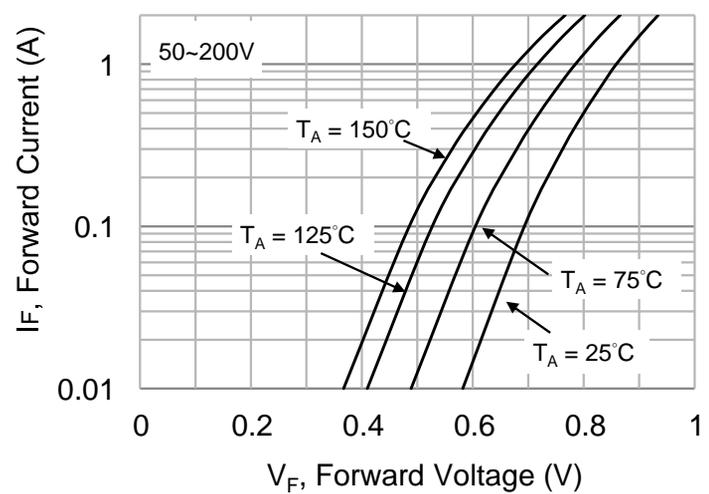


Fig.6 Typical Forward Characteristics



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TYPICAL CHARACTERISTIC CURVES

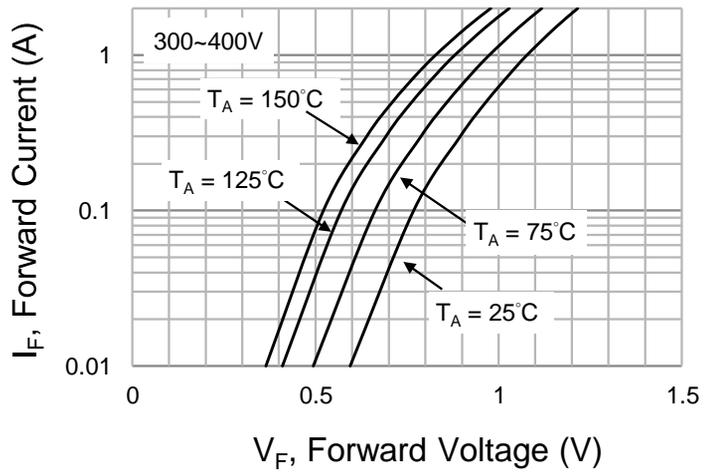


Fig.7 Typical Forward Characteristics

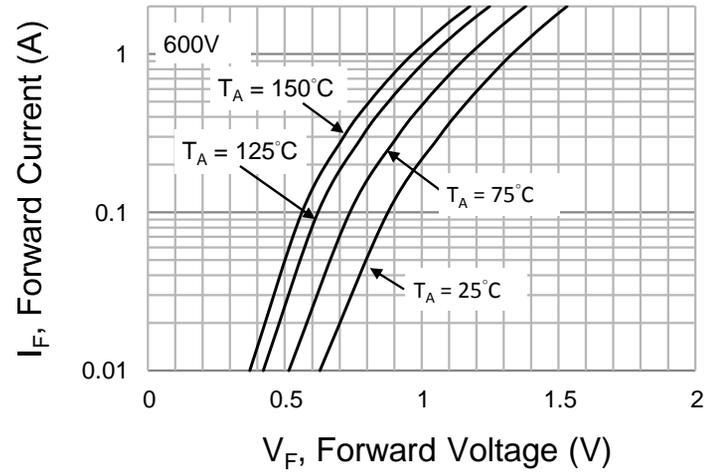


Fig.8 Typical Forward Characteristics

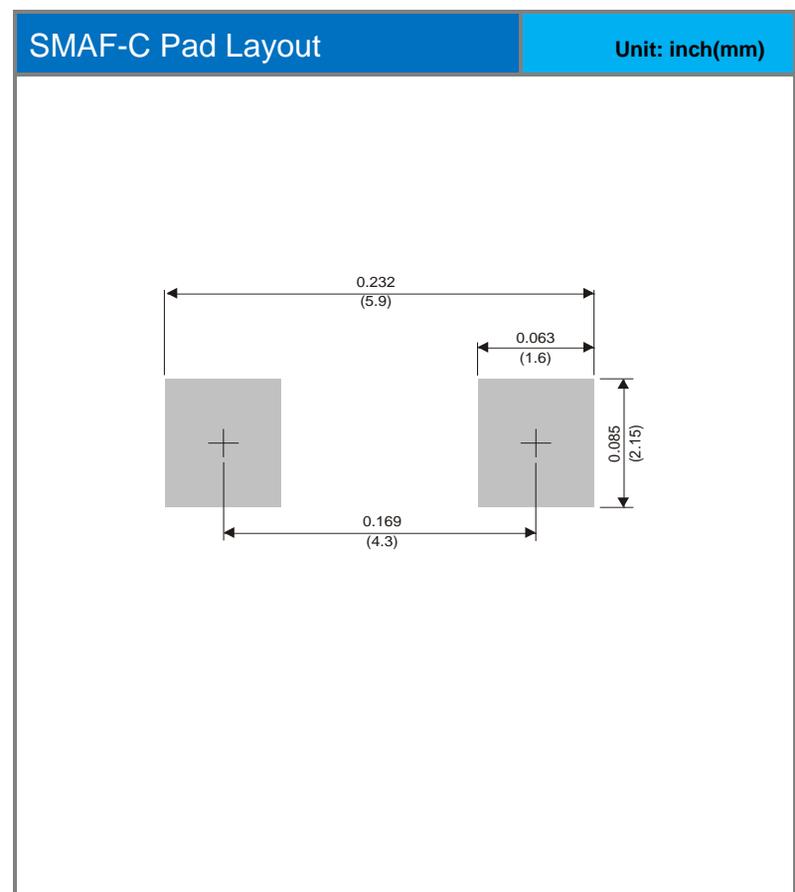
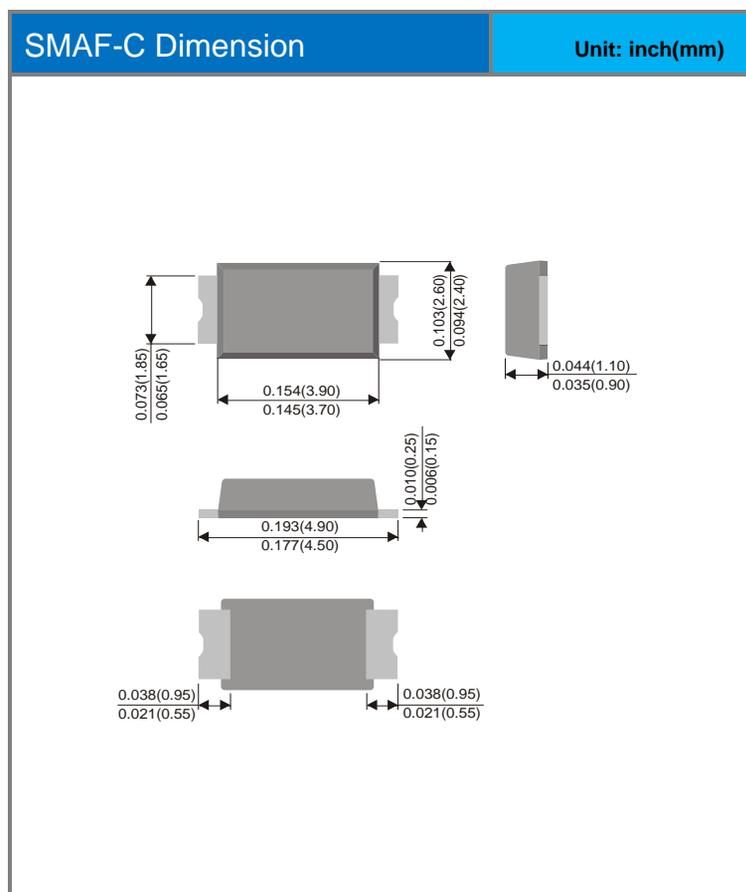


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Product and Packing Information

Part No.	Package Type	Packing Type	Marking
ER1AAFC	SMAF-C	3K pcs / 7" reel	ER1A
ER1BAFC	SMAF-C	3K pcs / 7" reel	ER1B
ER1CAFC	SMAF-C	3K pcs / 7" reel	ER1C
ER1DAFC	SMAF-C	3K pcs / 7" reel	ER1D
ER1EAFC	SMAF-C	3K pcs / 7" reel	ER1E
ER1GAFC	SMAF-C	3K pcs / 7" reel	ER1G
ER1JAFC	SMAF-C	3K pcs / 7" reel	ER1J

Packaging Information & Mounting Pad Layout





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