



## ER1AAFC ~ ER1J AFC Series

### Surface Mount Super Fast Recovery Rectifier

**Voltage**

**50~600 V**

**Current**

**1 A**

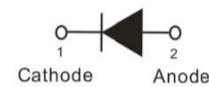
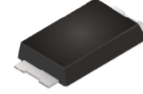
#### Features

- 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<sub>A</sub> = 25°C unless otherwise noted)

PARAMETER	SYMBOL	ER1AAFC	ER1BAFC	ER1CAFC	ER1DAFC	ER1E AFC	ER1GAFC	ER1J AFC	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	150	200	300	400	600	V
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	105	140	210	280	420	V
Maximum DC Blocking Voltage	V <sub>R</sub>	50	100	150	200	300	400	600	V
Maximum Average Forward Rectified Current	I <sub>F(AV)</sub>	1							A
Peak Forward Surge Current : 8.3 ms Single Half Sine-Wave Superimposed On Rated Load	I <sub>FSM</sub>	30							A
Instantaneous Forward Voltage at 1A	V <sub>F</sub>	0.95			1.25		1.7		V
Reverse Current	I <sub>R</sub>	1							uA
Typical Junction Capacitance Measured at 1 MHz And Applied V <sub>R</sub> = 4V	C <sub>J</sub>	15							pF
Reverse Recovery Time <sup>(Note 1)</sup>	T <sub>RR</sub>	35							ns
Typical Thermal Resistance	<sup>(Note 2)</sup> R <sub>θJL</sub>	24							°C/W
	<sup>(Note 3)</sup> R <sub>θJA</sub>	150							
Operating Junction Temperature Range	T <sub>J</sub>	-55 to +150							°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150							°C

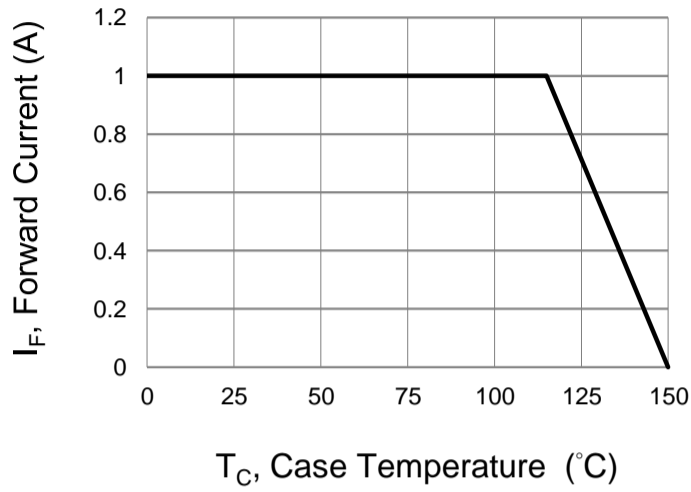
#### NOTES:

1. Reverse Recovery Test Conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1A, Recover to 0.25A
2. Mounted on a FR4 PCB, single-sided copper, with 48cm<sup>2</sup> copper pad area
3. Mounted on a FR4 PCB, single-sided copper, standard footprint

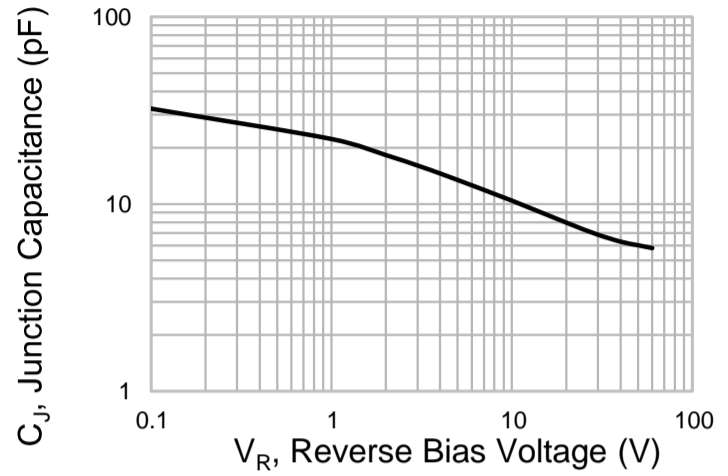


# ER1AAFC ~ ER1JAFC Series

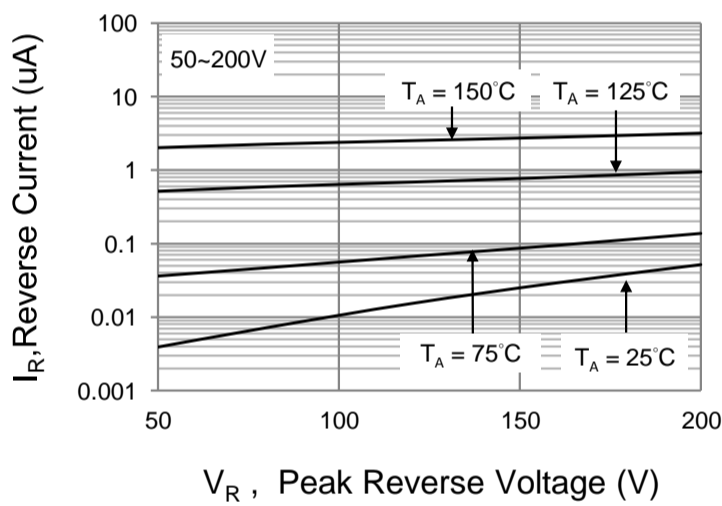
## TYPICAL CHARACTERISTIC CURVES



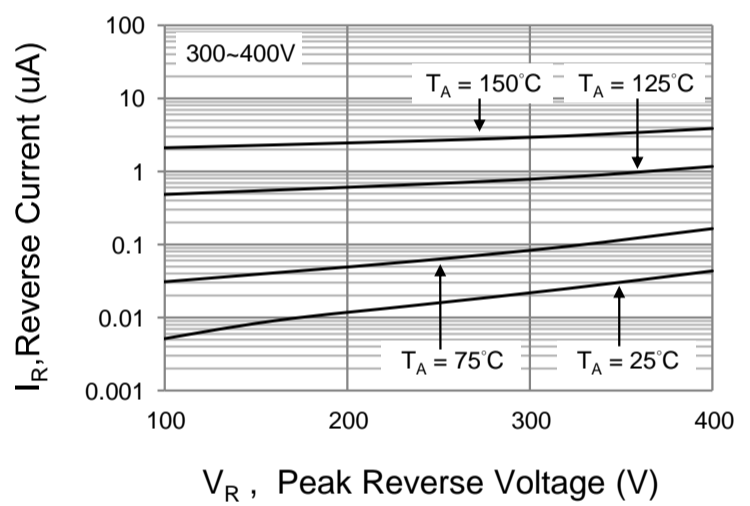
**Fig.1 Forward Current Derating Curve**



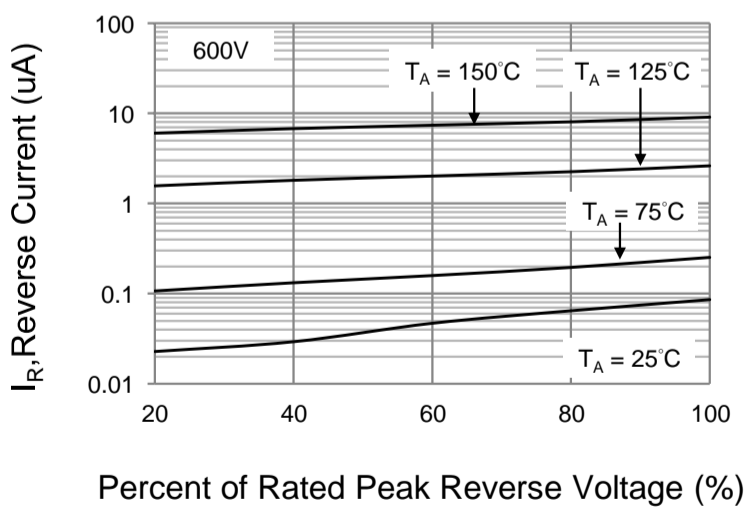
**Fig.2 Typical Junction Capacitance**



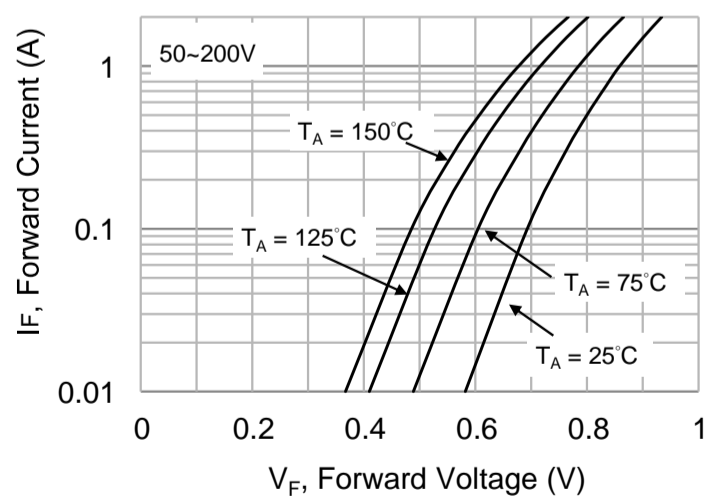
**Fig.3 Typical Reverse Characteristics**



**Fig.4 Typical Reverse Characteristics**



**Fig.5 Typical Reverse Characteristics**



**Fig.6 Typical Forward Characteristics**



# ER1AAFC ~ ER1JAFC Series

## TYPICAL CHARACTERISTIC CURVES

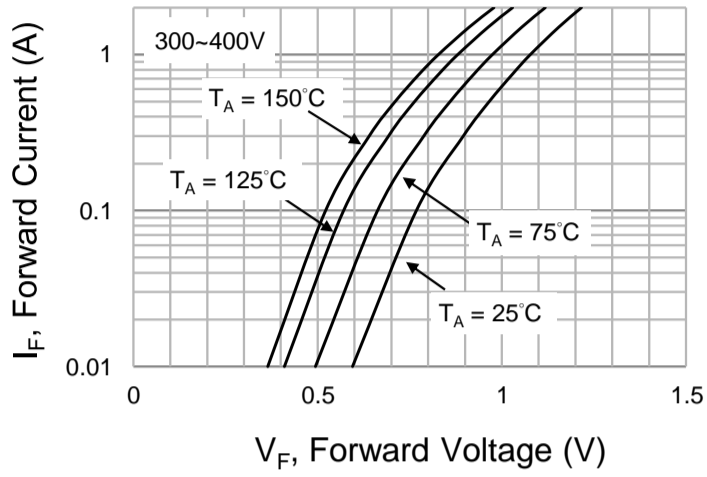


Fig.7 Typical Forward Characteristics

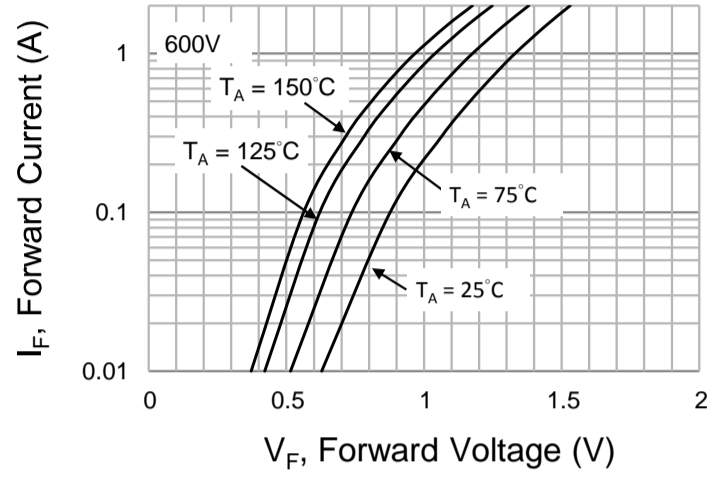


Fig.8 Typical Forward Characteristics

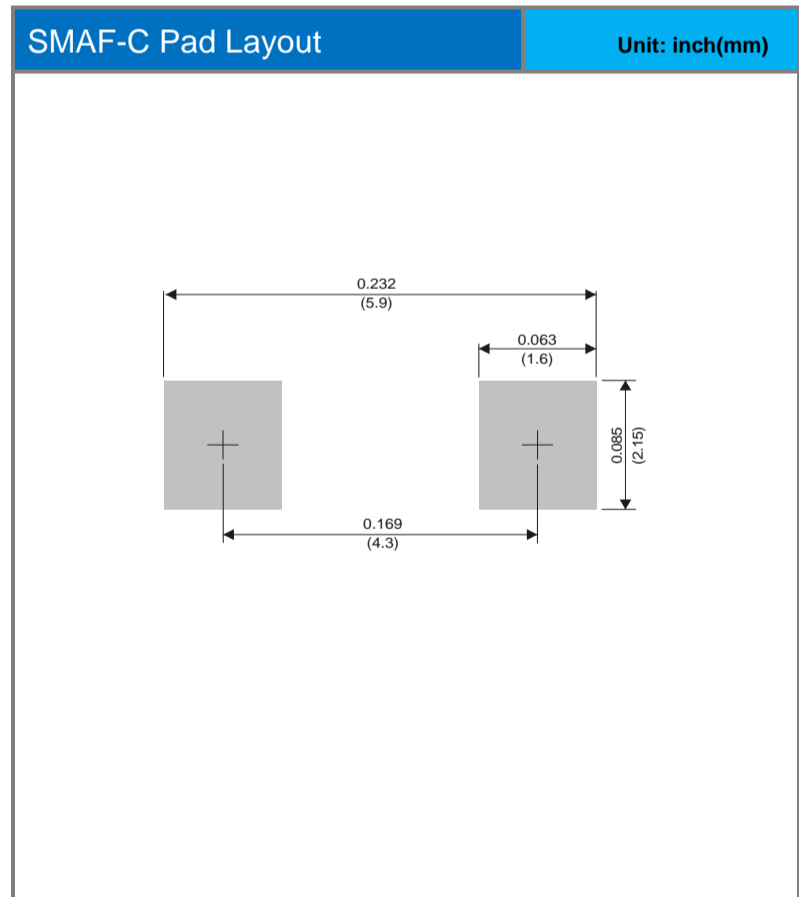
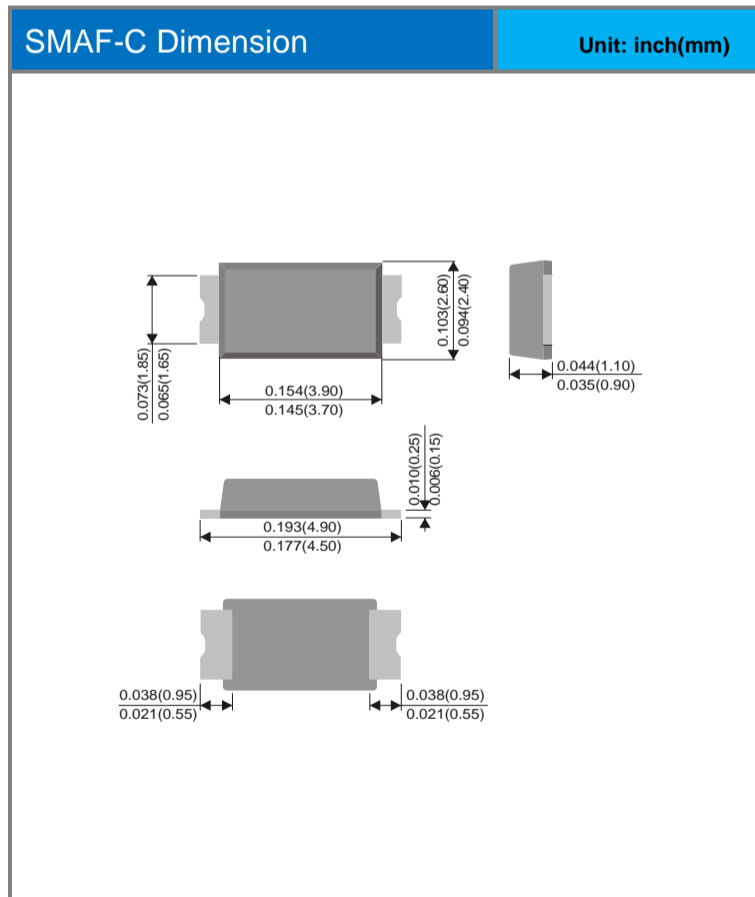


# ER1AAFC ~ ER1JAFC Series

## Part No. Packing Code Version

Part No. Packing Code	Package Type	Packing Type	Marking	Version
ER1AAFC_R1_00001	SMAF-C	3K pcs / 7" reel	ER1A	Halogen free
ER1BAFC_R1_00001	SMAF-C	3K pcs / 7" reel	ER1B	Halogen free
ER1CAFC_R1_00001	SMAF-C	3K pcs / 7" reel	ER1C	Halogen free
ER1DAFC_R1_00001	SMAF-C	3K pcs / 7" reel	ER1D	Halogen free
ER1EAFC_R1_00001	SMAF-C	3K pcs / 7" reel	ER1E	Halogen free
ER1GAFC_R1_00001	SMAF-C	3K pcs / 7" reel	ER1G	Halogen free
ER1JAFC_R1_00001	SMAF-C	3K pcs / 7" reel	ER1J	Halogen free

## Packaging Information & Mounting Pad Layout





## ER1AAFC ~ ER1JAFC Series

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