RS1AF~RS1MF

SURFACE MOUNT FAST RECOVERY RECTIFIER

VOLTAGE	50-1000 Volt	CURRENT	1 Ampere

FEATURES

- For surface mounted applications in order to optimize board space
- Low profile package
- Easy pick and place
- Fast Recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- Glass Passivated Junction
- Lead free in ccompliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

MECHANICAL DATA

- Case: SMAF molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750,Method 2026
- Polarity: Color band denotes cathode end
- Approx. Weight: 0.0011 ounces, 0.0328 grams
- Marking: Part number

SMAF Unit : inch(mm)

1 Cathode   2 Anode
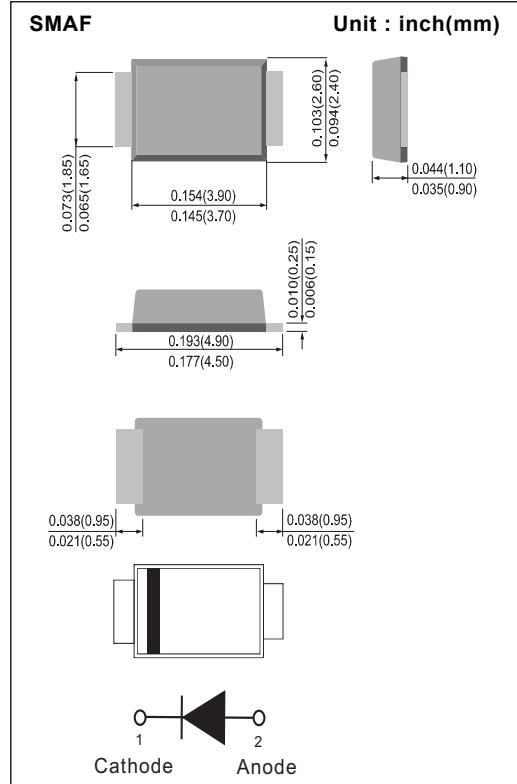
MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	RS1AF	RS1BF	RS1DF	RS1GF	RS1JF	RS1KF	RS1MF	UNITS
Recurrent Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
DC Blocking Voltage	V_R	50	100	200	400	600	800	1000	V
Average Forward Current	$I_{F(AV)}$	1							A
Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	30							A
Forward Voltage at 1A	V_F	1.3							V
DC Reverse Current at Rated DC Blocking Voltage T_J=25°C T_J=125°C	I_R	1 150							µA
Typical Junction Capacitance V_R=4V,f=1MHz	C_J	15				7			pF
Typical Thermal Resistance ,Junction to Lead (Note 1) Junction to Ambient (Note 2)	$R_{\theta JL}$ $R_{\theta JA}$	31 150							°C / W
Reverse Recovery Time (I_F=0.5A, I_R=-1A,I_{rr}=-0.25A)	T_{rr}	150				250	500		ns
Operating Junction Temperature and Storage Temperature Range	T_J, T_{STG}	-55 to +150							°C

NOTES : 1. Mounted on a FR4 PCB, single-sided copper, with 48cm^2 copper pad area
2. Mounted on a FR4 PCB, single-sided copper, mini pad.
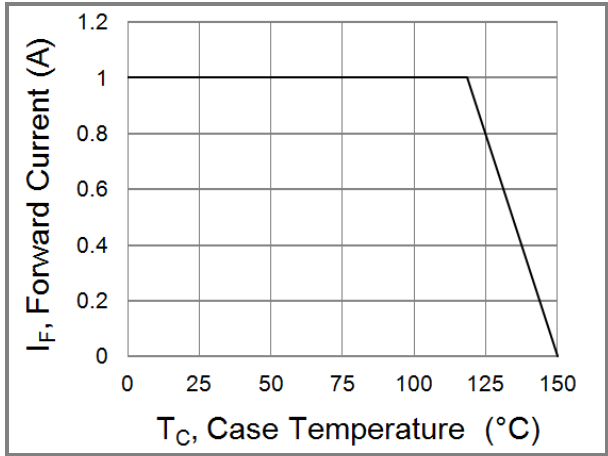
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TYPICAL CHARACTERISTIC CURVES

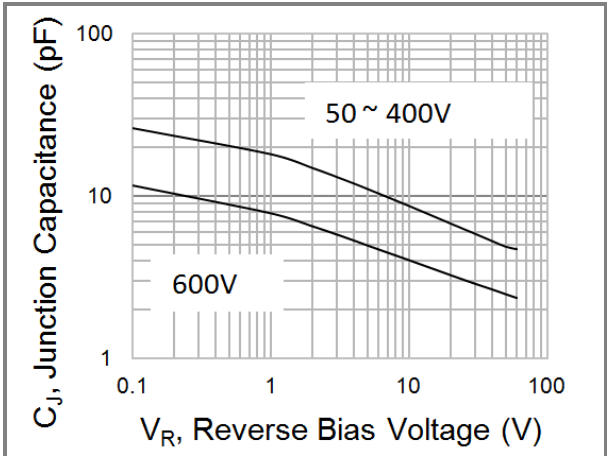**Fig.1 Forward Current Derating Curve**
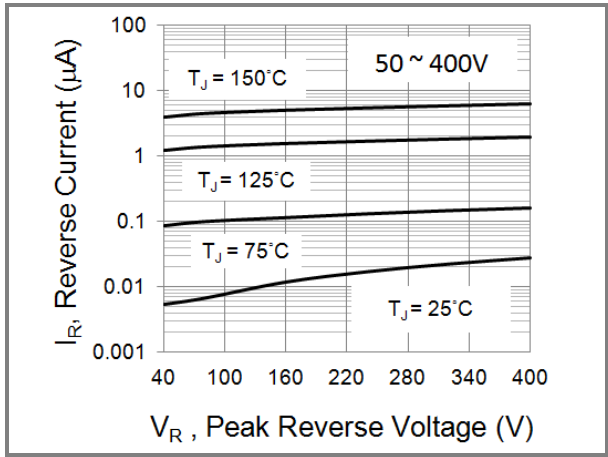

Fig. 2 Typical Junction Capacitance
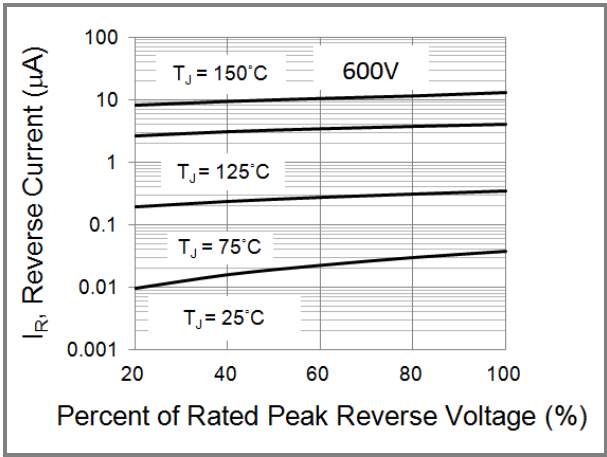

Fig.3 Typical Reverse Characteristics

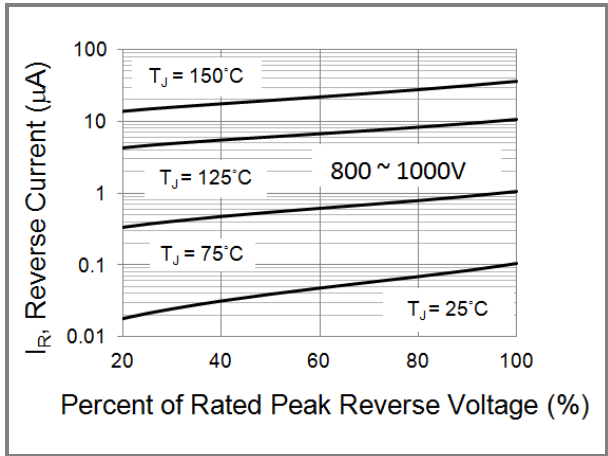
Fig.4 Typical Reverse Characteristics

Fig.5 Typical Reverse Characteristics

Fig.6 Typical Forward Characteristics

December 12,2018-REV.03

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600V

I_F, Forward Current (A) vs V_F, Forward Voltage (V)

$T_J = 150°C$
$T_J = 125°C$
$T_J = 25°C$
$T_J = 75°C$

Fig.7 Typical Forward Characteristics

800~1000V

I_F, Forward Current (A) vs V_F, Forward Voltage (V)
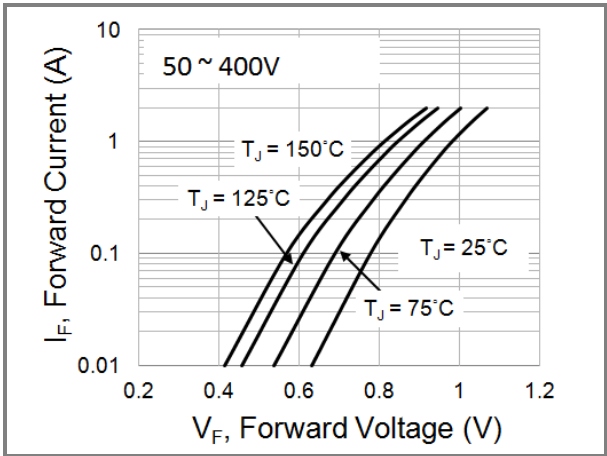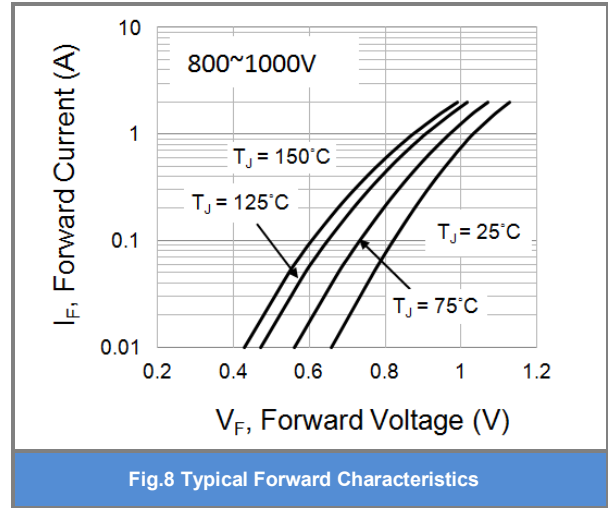
$T_J = 150°C$
$T_J = 125°C$
$T_J = 25°C$
$T_J = 75°C$

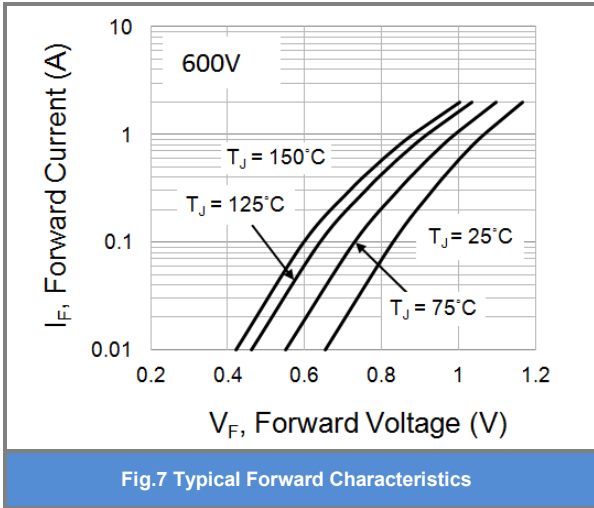**Fig.8 Typical Forward Characteristics**

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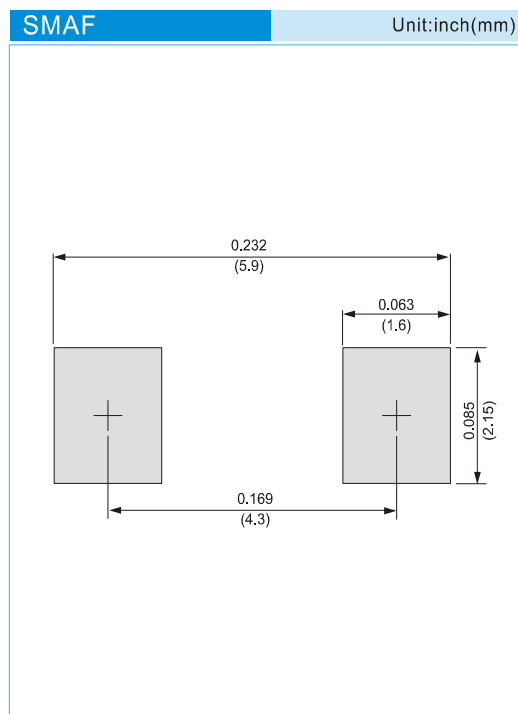## PART NO PACKING CODE VERSION

Part No Packing Code	Package Type	Packing Type	Marking	Version
RS1AF_R1_00001	SMAF	3K pcs / 7" reel	RS1AF	Halogen free
RS1AF_R2_00001	SMAF	10K pcs / 13" reel	RS1AF	Halogen free

MOUNTING PAD LAYOUT

SMAF   Unit:inch(mm)

0.232 (5.9)

0.063 (1.6)

0.085 (2.15)

0.169 (4.3)

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