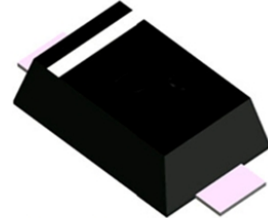


SURFACE MOUNT RECTIFIER

Voltage 50 to 1000 Volt Current 1 Ampere

Features

- Plastic package has Underwriters Laboratory Flammability
- Classification 94V-O
- For surface mounted applications in order to optimize board space
- Easy pick and place
- Glass passivated junction
- Complete device submersible temperature of 260°C for 10 seconds in solder bath
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)
- AEC-Q101 qualified (Automotive grade with suffix "Q".)
- Exsemi technology



Mechanical Data

- Case: JEDEC SMAF molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Single phase , half wave ,60Hz, resistive or inductive load.
For capacitive load , derate current by 20%.

PARAMETER	SYMBOL	S1AF	S1BF	S1DF	S1GF	S1JF	S1KF	S1MF	UNIT
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_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Current at $T_L=100\text{ }^\circ\text{C}$	$I_{F(AV)}$	1							A
Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	30							A
Maximum Forward Voltage at 1A	V_F	1.1							V
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	I_R	5 50							μA
Typical Junction Capacitance (Notes 1)	C_J	12							pF
Typical Junction Resistance (Notes 2)	$R_{\theta JL}$ $R_{\theta JA}$	35 75							$^\circ\text{C} / \text{W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150							$^\circ\text{C}$

NOTES:

1. Measured at 1 Mhz and Applied $V_r = 4$ volts.
2. 8mm^2 (0.013 mm thick) land areas.

RATING AND CHARACTERISTIC CURVES

Fig.1 FORWARD CURRENT DERATING CURVE

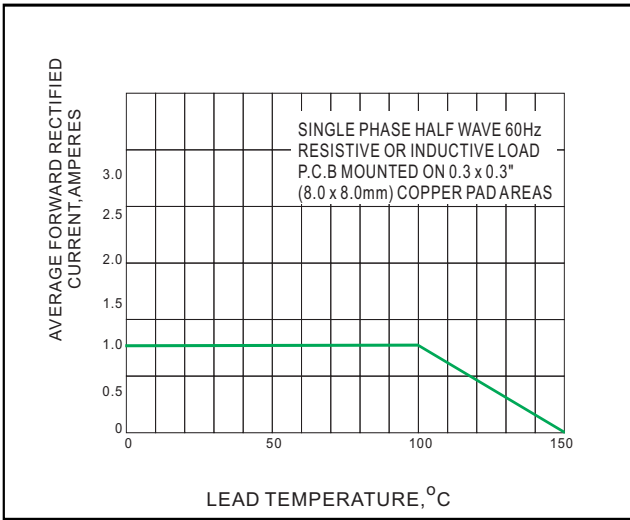


Fig.2 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

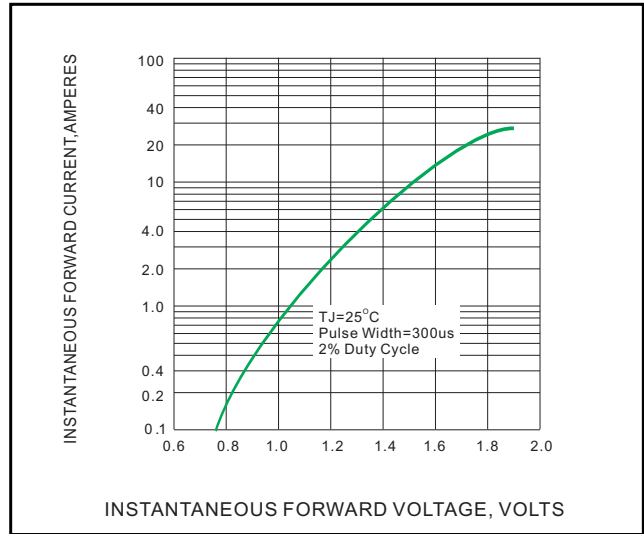


Fig.3-TYPICAL REVERSE CHARACTERISTIC

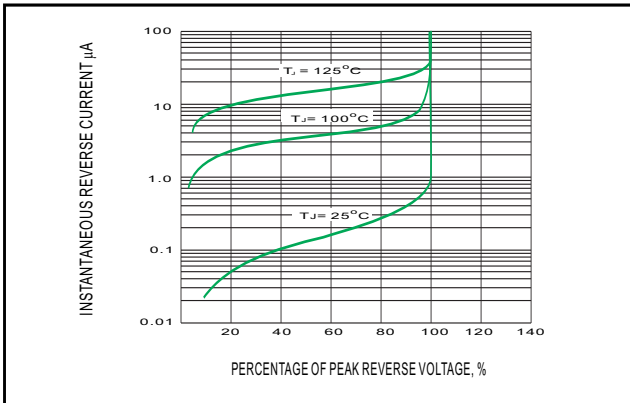


Fig.4 MAXIMUM NON REPETITIVE PEAK SURGE CURRENT

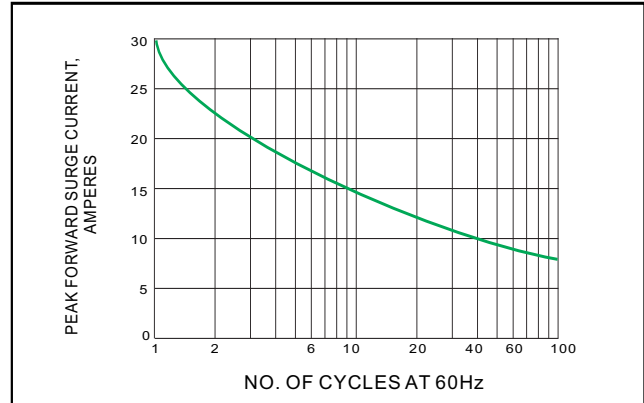
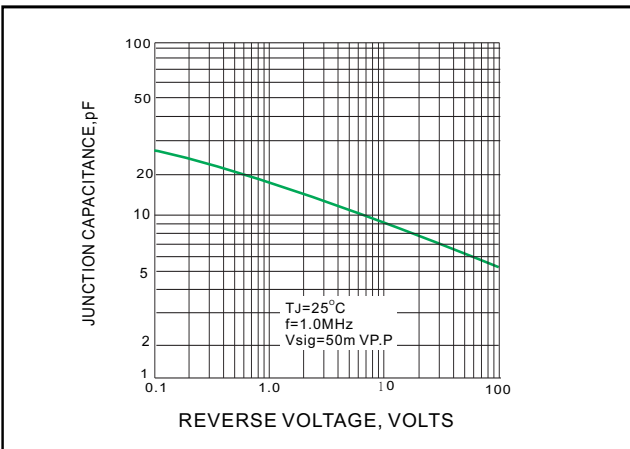
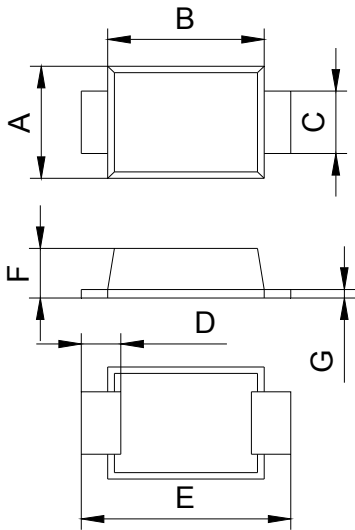


Fig.5 TYPICAL JUNCTION CAPACITANCE



Dimensions SMAF



SMAF

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.40	2.80	0.094	0.110
B	3.25	3.70	0.128	0.146
C	1.30	1.60	0.051	0.063
D	0.55	1.20	0.022	0.047
E	4.40	4.90	0.173	0.193
F	0.90	1.40	0.035	0.055
G	0.10	0.30	0.004	0.012

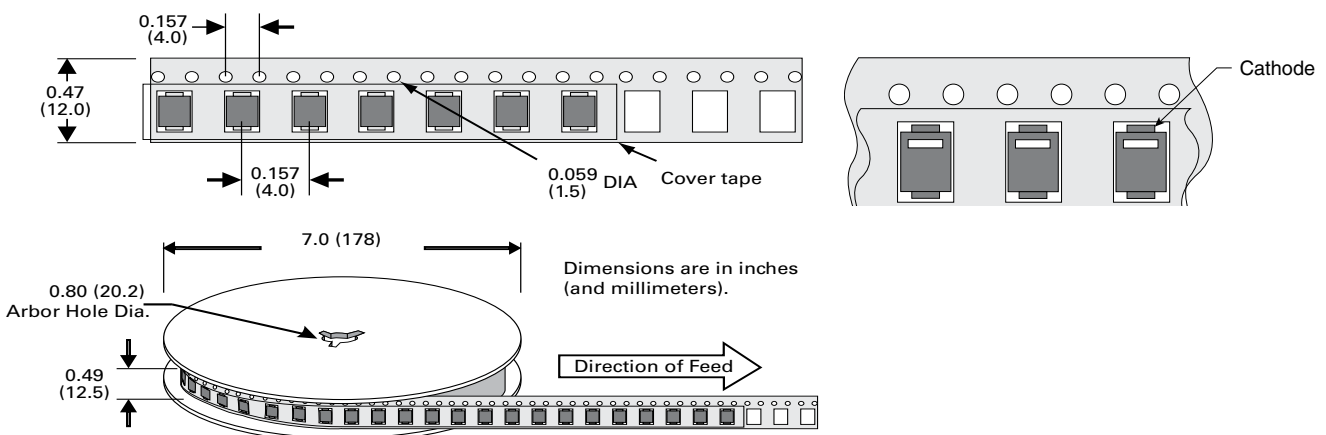
Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

Packaging

Part number	Component Package	Quantity	Packaging Option	Packaging Specification
S1XF	SMAF	5000	Tape & Reel - 12mm tape/13" reel	EIA STD RS-481

Tape and Reel Specification



Note: Devices are packed in accordance with EIA standard RS-481-A and specification given above.