

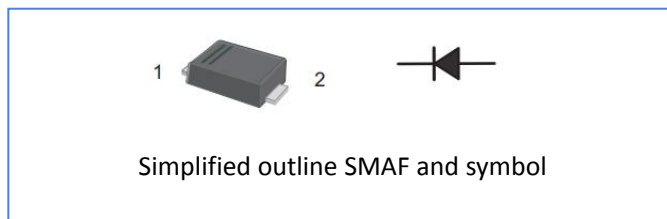
US1AF THRU US1MF

Features

- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- High efficiency
- Lead free in comply with EU RoHS 2011/65/EU directiv

Mechanical Data

- Case:SMAF
- Terminals: Solderable per MIL-STD-750, Method 20
- Approx. Weight: 27mg / 0.00095oz



Pinning

PIN	DESCRIPTION
1	Cathode
2	Anode

Absolute Maximum Ratings And Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Symbols	US1AF	US1BF	US1DF	US1GF	US1JF	US1KF	US1MF	Units
Maximum Repetitive 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 Rectified Current at $T_c = 125^\circ\text{C}$	$I_{F(AV)}$	1							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	30							A
Maximum Instantaneous Forward Voltage at 1 A	V_F	1.0			1.3	1.65			V
Maximum DC Reverse Current $T_a = 25^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 125^\circ\text{C}$	I_R	5 100							μA
Maximum Reverse Recovery Time ⁽¹⁾	t_{rr}	50				75			ns
Typical Junction Capacitance ⁽²⁾	C_j	15							pF
Typical Thermal Resistance ⁽³⁾	$R_{\theta JA}$	80							$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150							$^\circ\text{C}$

(1) Measured with $I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $I_{rr} = 0.25\text{ A}$

(2) Measured at 1 MHz and applied reverse voltage of 4 V D.C

(3) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas

Rating And Characteristic Curves

Fig.1 Forward Current Derating Curve

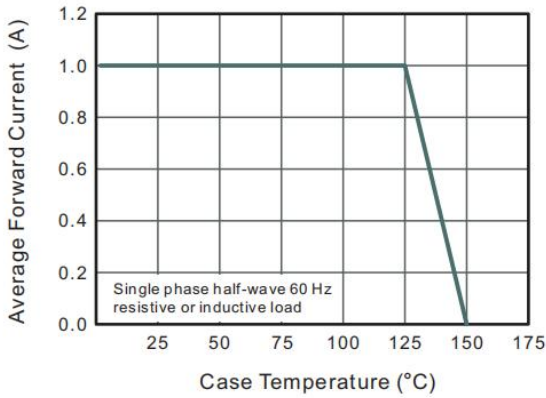


Fig.2 Typical Reverse Characteristics

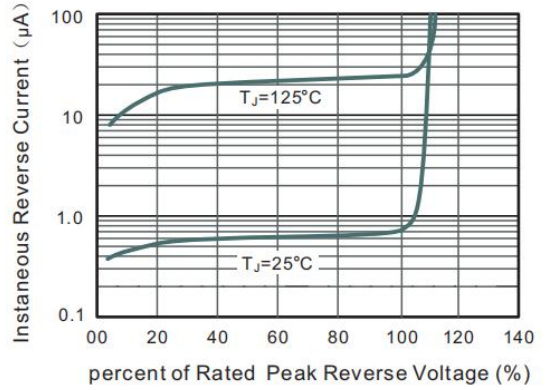


Fig.3 Typical Forward Characteristics

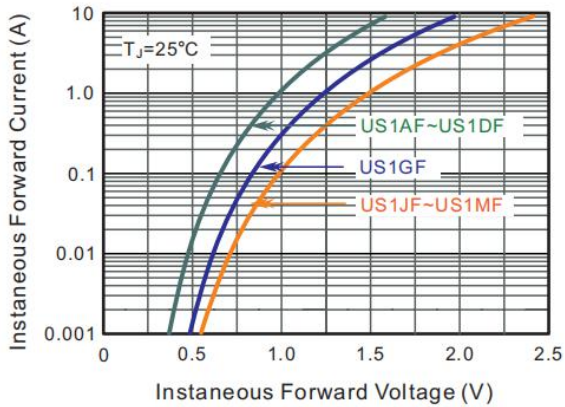


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current

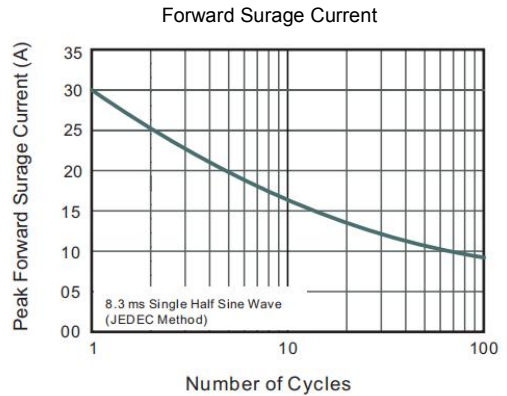
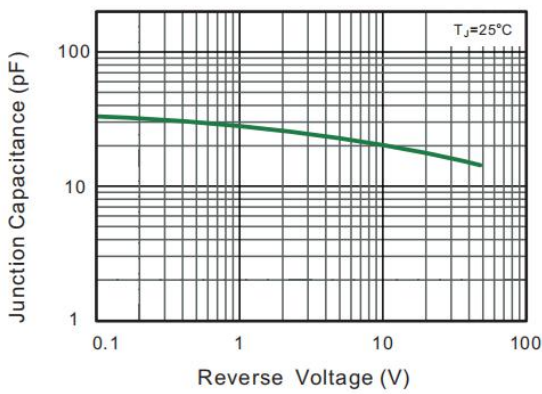


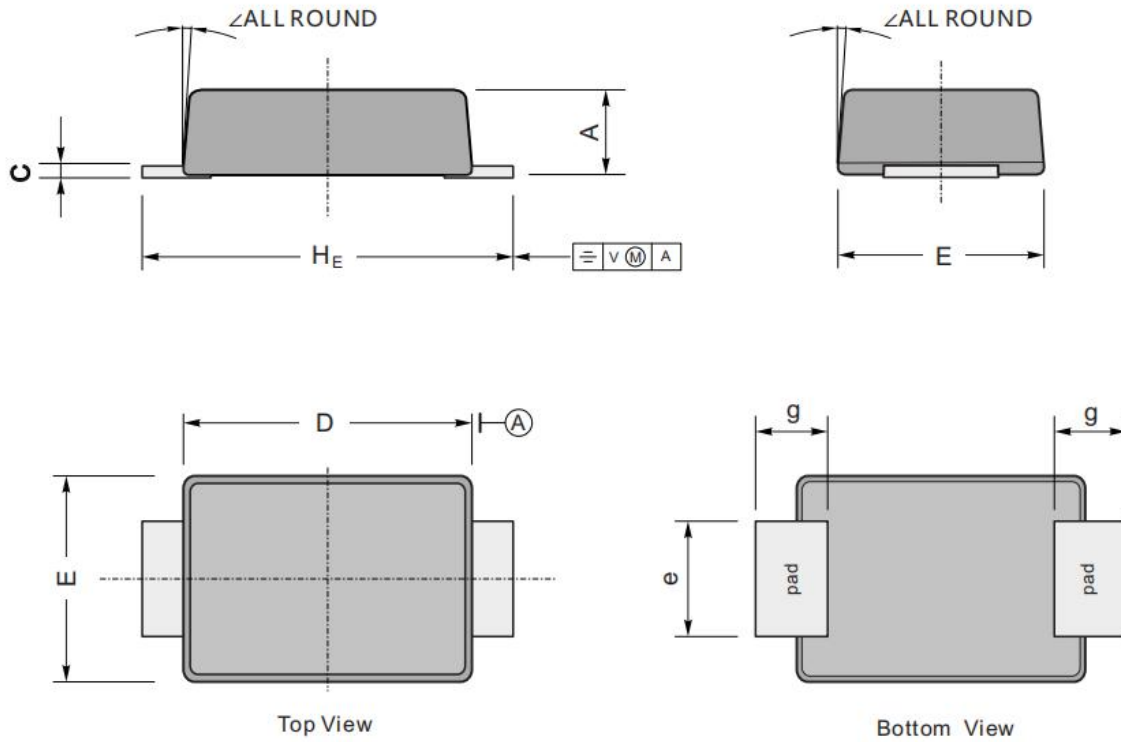
Fig.5 Typical Junction Capacitance



Package Outline

Plastic surface mounted package; 2 leads

SMAF



UNIT		A	C	D	E	e	g	H_E	\sphericalangle
mm	max	1.2	0.2	3.7	2.7	1.6	1.2	4.9	7°
	min	0.9	0.12	3.3	2.4	1.3	0.8	4.4	
mil	max	47	7.9	146	106	63	47	193	
	min	35	4.7	130	94	51	31	173	

The recommended mounting pad size

