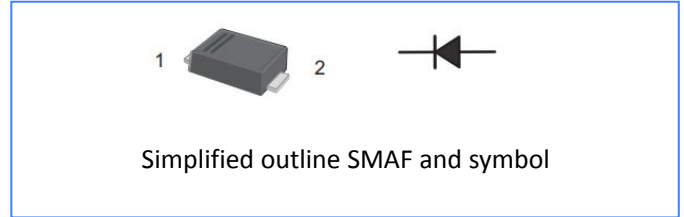


## US3AF THRU US3MF

### 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 directives



### 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	USAF	US3BF	US3DF	US3GF	US3JF	US3KF	US3MF	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 $T_c = 125^\circ\text{C}$	$I_{F(AV)}$	3							A	
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	$I_{FSM}$	80							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							$\mu\text{A}$	
Maximum Reverse Recovery Time <sup>(1)</sup>	$t_{rr}$	50				75				ns
Typical Thermal Resistance <sup>(2)</sup>	$R_{\theta JA}$	50							$^\circ\text{C}/\text{W}$	
	$R_{\theta JC}$	16								
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) M.P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas

**Rating And Characteristic Curves**

Fig.1 Maximum Average Forward Current Rating

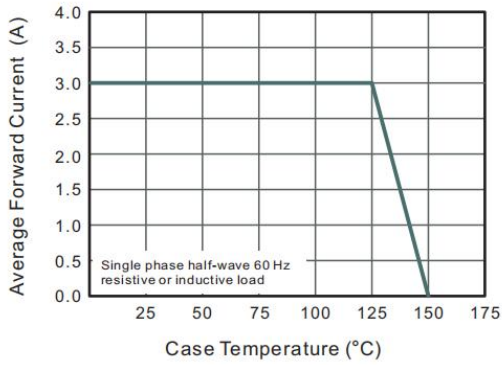


Fig.2 Typical Reverse Characteristics

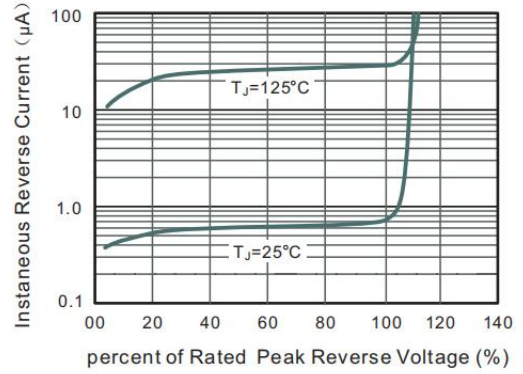


Fig.3 Typical Forward Characteristics

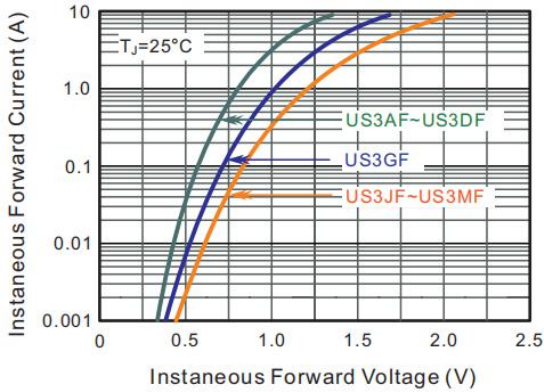
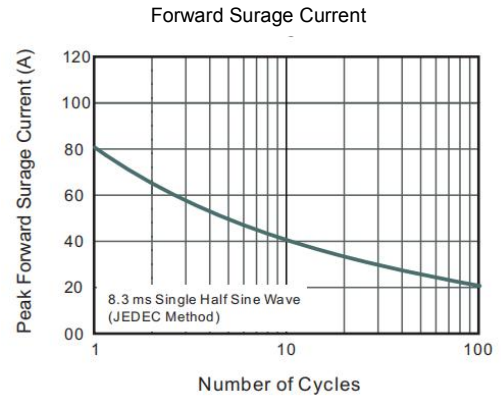


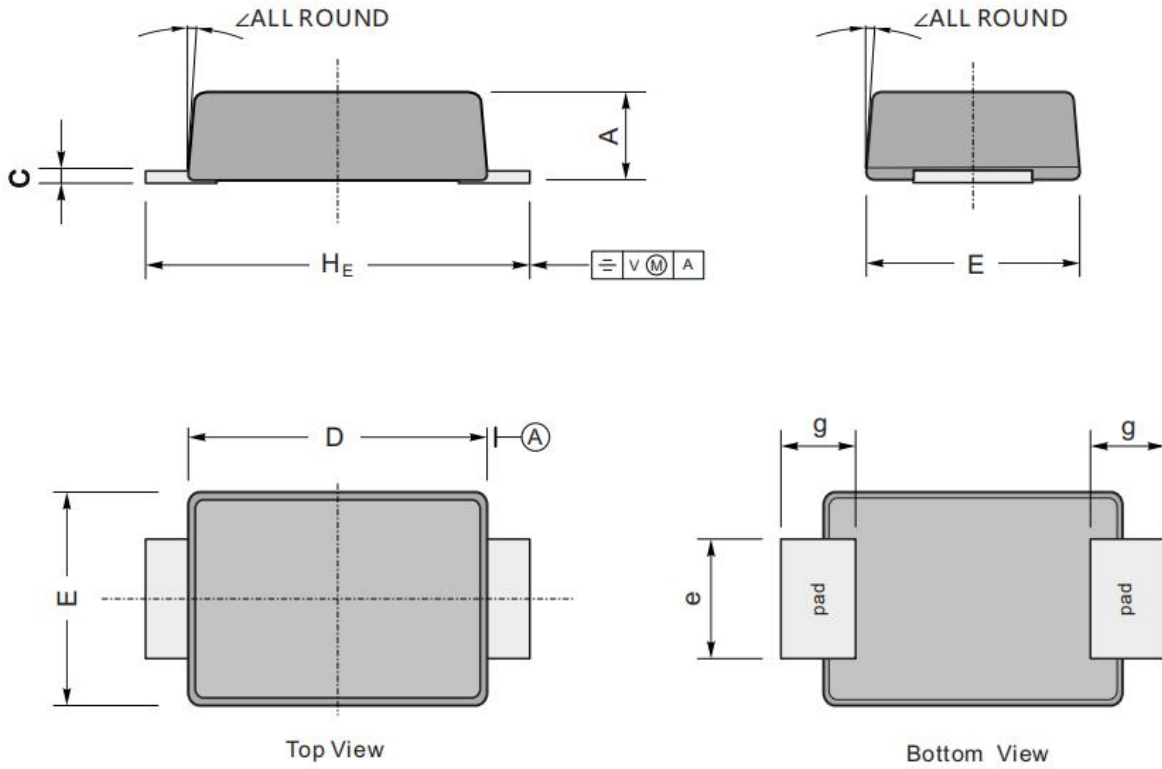
Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



Package Outline

Plastic surface mounted package; 2 leads

SMAF



UNIT		A	C	D	e	E	g	H <sub>E</sub>	∠
mm	max	1.2	0.20	3.70	1.6	2.7	1.2	4.9	7°
	min	0.9	0.12	3.30	1.3	2.4	0.8	4.4	
mil	max	47	7.9	146	63	106	47	193	
	min	35	4.7	130	51	94	31	173	

The recommended mounting pad size

