



**SURFACE MOUNT ULTRAFAST RECOVERY RECTIFIER**

Reverse Voltage - 50 to 1000 V

Forward Current - 3 A

**FEATURES**

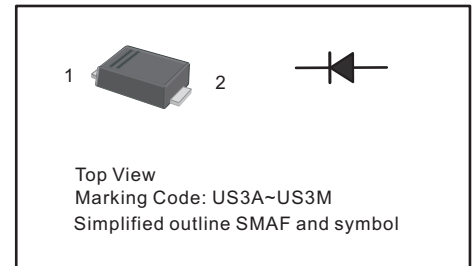
- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- High efficiency
- Lead free in comply with EU RoHS 2011/65/EU directives

**MECHANICAL DATA**

- Case: SMAF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 27mg / 0.00095oz

**PINNING**

PIN	DESCRIPTION
1	Cathode
2	Anode



**Maximum Ratings and Electrical characteristics**

Ratings at 25 °C ambient temperature unless otherwise specified.

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

Parameter	Symbols	US3AF	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 $T_c = 125\text{ }^\circ\text{C}$	$I_{F(AV)}$	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 3 A	$V_F$	1.0		1.3		1.68			V	
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_a = 25\text{ }^\circ\text{C}$ $T_a = 125\text{ }^\circ\text{C}$	$I_R$	5 100							$\mu\text{A}$	
Maximum Reverse Recovery Time <sup>(1)</sup>	$t_{rr}$	50				75				ns
Typical Thermal Resistance <sup>(2)</sup>	$R_{\theta JA}$ $R_{\theta JC}$	50 16							$^\circ\text{C/W}$	
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) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.



Fig.1 Maximum Average Forward Current Rating

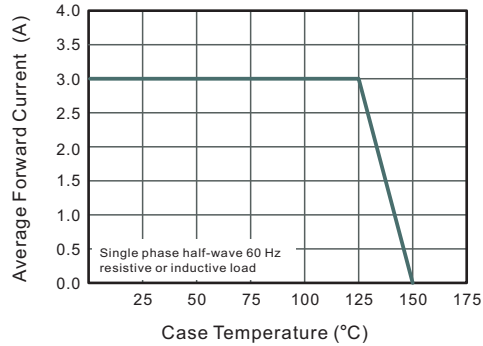


Fig.2 Typical Reverse Characteristics

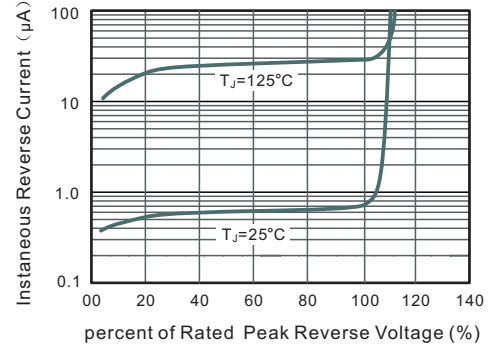


Fig.3 Typical Forward Characteristics

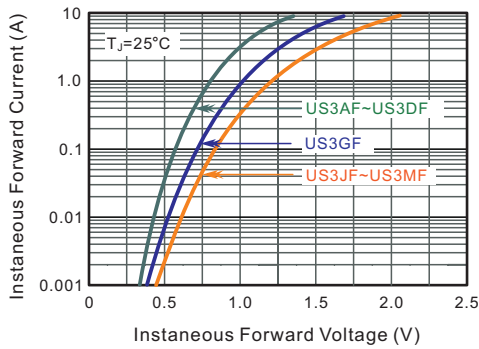
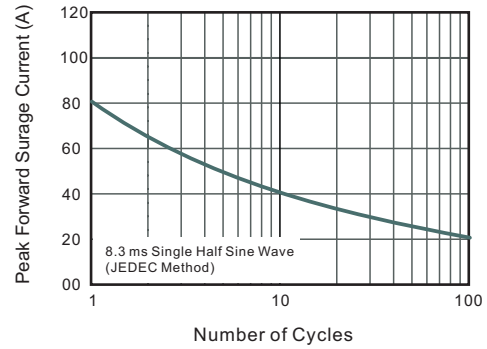


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current

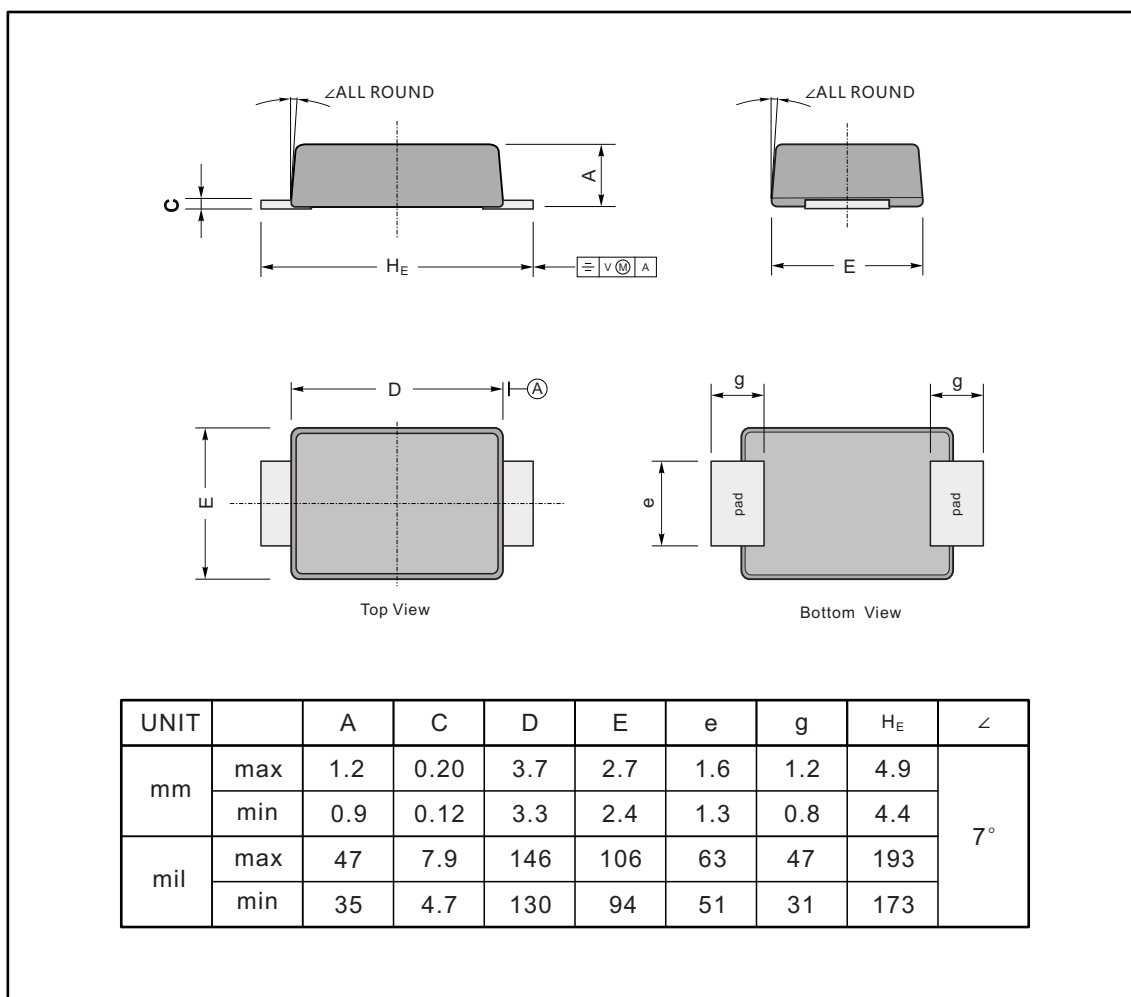




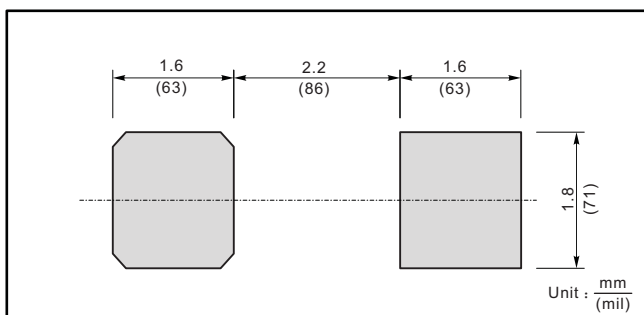
PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SMAF



The recommended mounting pad size



Marking

Type number	Marking code
US3AF	US3A
US3BF	US3B
US3DF	US3D
US3GF	US3G
US3JF	US3J
US3KF	US3K
US3MF	US3M