

SURFACE MOUNT ULTRAFAST RECOVERY RECTIFIER

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Reverse Voltage - 50 to 1000 V

Forward Current - 3 A

FEATURES

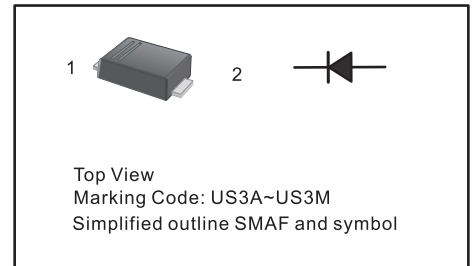
- ┌ For surface mounted applications
- ┌ Low profile package
- ┌ Glass Passivated Chip Junction
- ┌ Easy to pick and place
- ┌ High efficiency
- ┌ Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

- ┌ Case: SMAF
- ┌ Terminals: Solderable per MIL-STD-750, Method 2026
- ┌ Approx. Weight: 27mg 000086oz

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 $T_a = 65\text{ °C}$	$I_{F(AV)}$	3							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	100							A
Maximum Instantaneous Forward Voltage at 3 A	V_F	1.0		1.4		1.7			V
Maximum DC Reverse Current $T_a = 25\text{ °C}$ at Rated DC Blocking Voltage $T_a = 125\text{ °C}$	I_R	5 300							(A
Maximum Reverse Recovery Time ¹	t_{rr}	75				63			ns
Typical Thermal Resistance	R_{JA}	180							°C/W
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150							°C

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

Fig.1 Forward Current Derating Curve

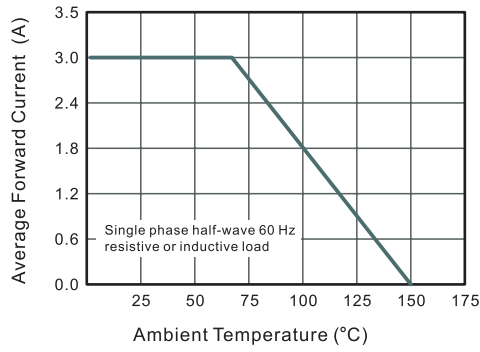


Fig.2 Typical Reverse Characteristics

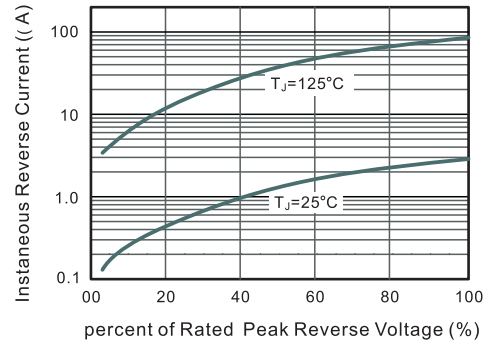


Fig.3 Typical Instantaneous Forward Characteristics

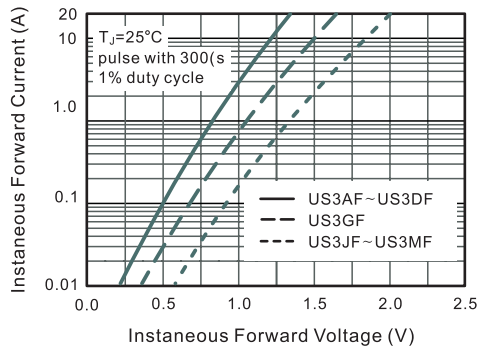
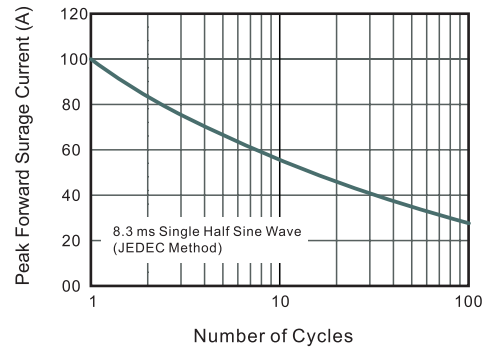


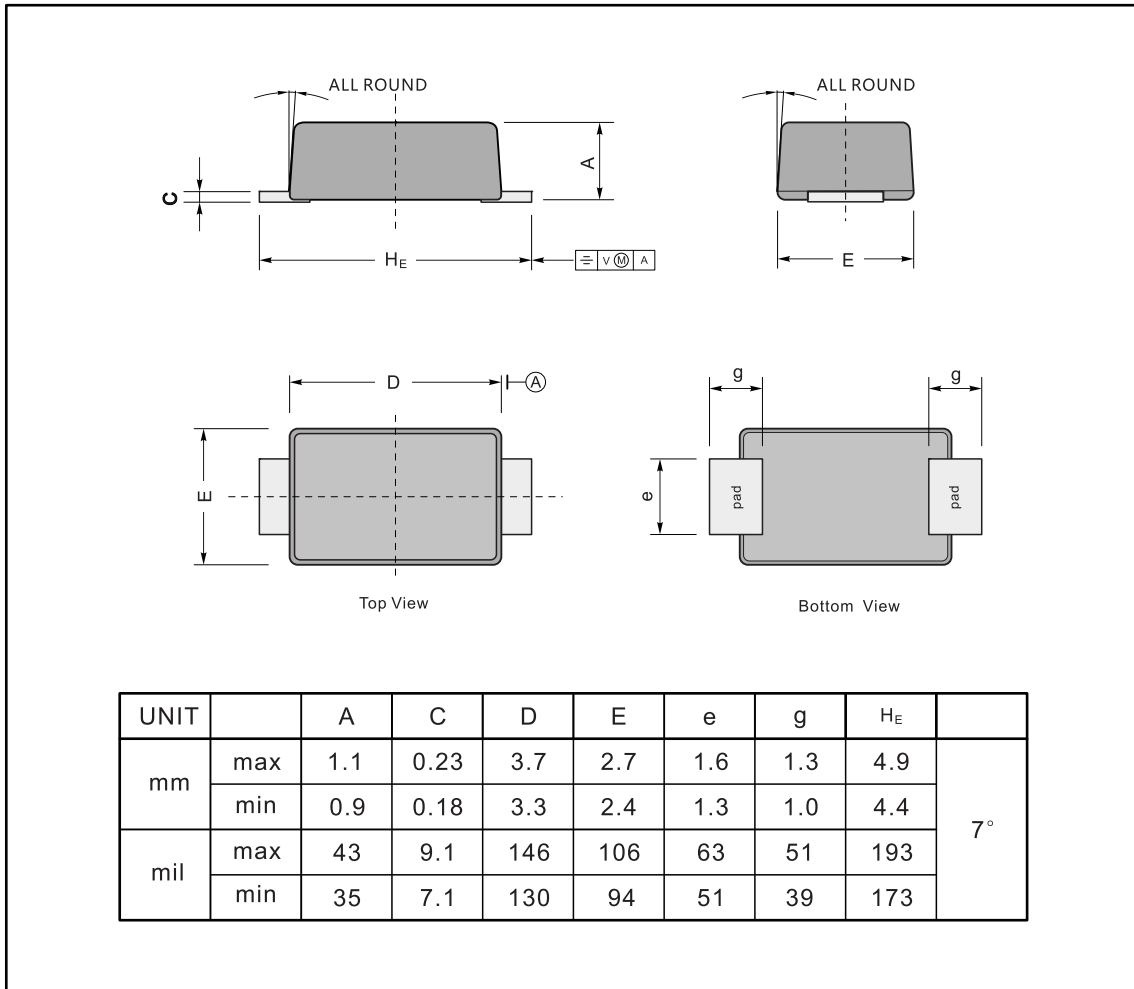
Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



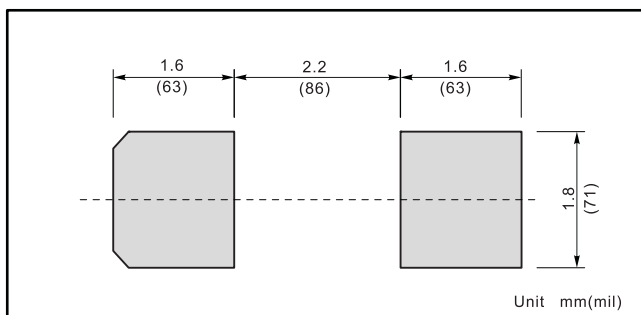
PACKAGE OUTLINE

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