



US3AF THRU US3MF

SURFACE MOUNT ULTRAFAST RECOVERY RECTIFIER

Reverse Voltage - 50 to 1000 V

Forward Current - 3 A

FEATURES

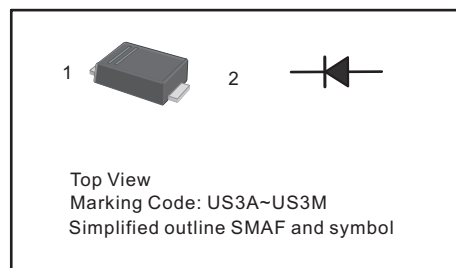
- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- High efficiency
- Lead free in comply with EU RoHS 2011/65/EU directives

MECHANICAL DATA

- Case: SMAF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 27mg 0.00086oz

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode

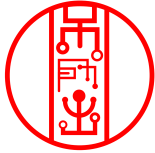


Maximum Ratings and Electrical characteristics

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 Ta = 65 °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 Ta = 25 °C at Rated DC Blocking Voltage Ta =125 °C	I _R	5 300							μA
Maximum Reverse Recovery Time ¹⁾	t _{rr}	75				63			ns
Typical Thermal Resistance	R _{θJA}	180							°C/W
Operating and Storage Temperature Range	T _j , T _{stg}	-55 ~ +150							°C

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



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Fig.1 Forward Current Derating Curve

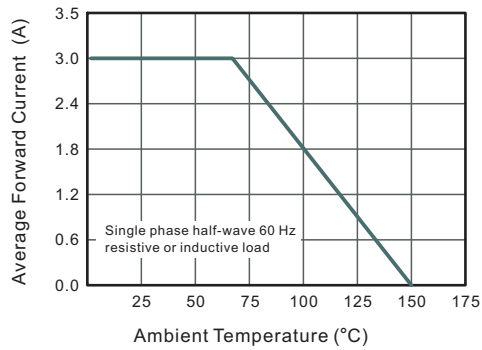


Fig.2 Typical Reverse Characteristics

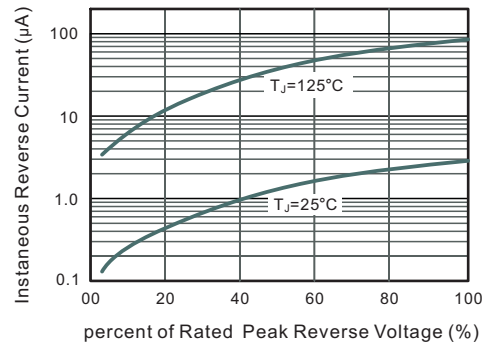


Fig.3 Typical Instaneous Forward Characteristics

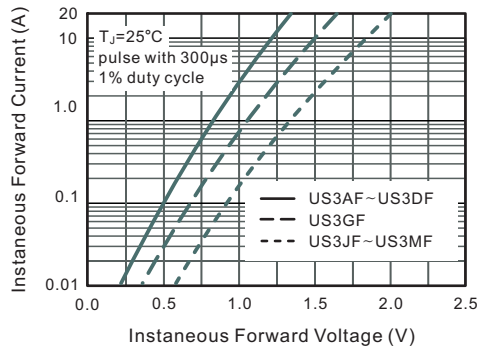
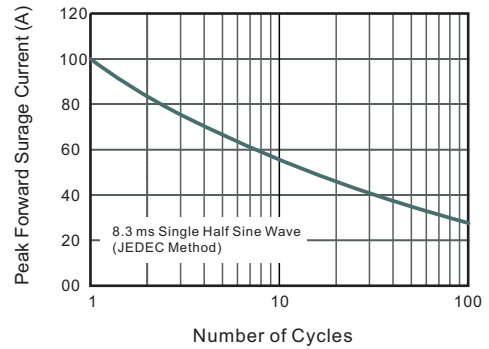


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



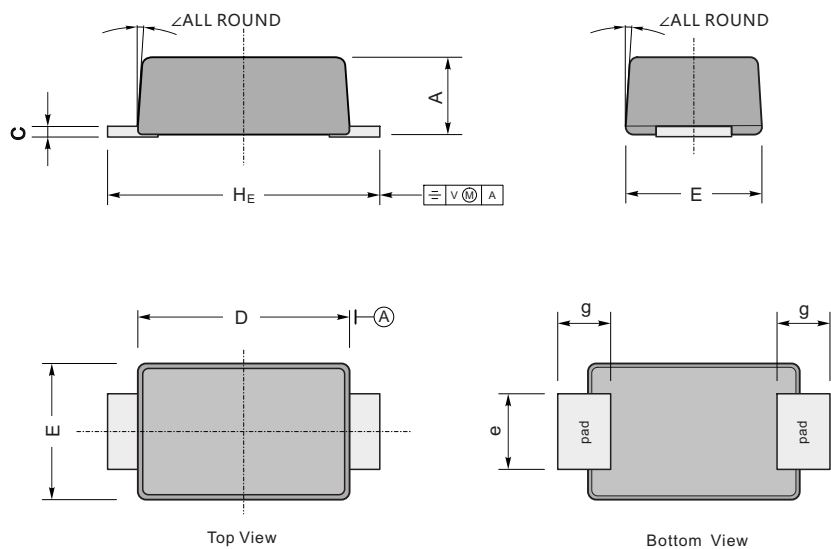


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PACKAGE OUTLINE

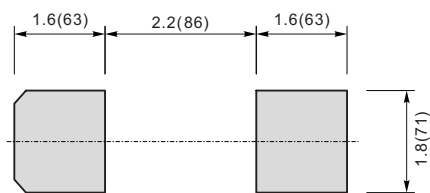
Plastic surface mounted package; 2 leads

SMAF



UNIT		A	C	D	E	e	g	H _E	∠
mm	max	1.1	0.20	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	43	7.9	146	106	63	47	193	
	min	35	4.7	130	94	51	31	173	

The recommended mounting pad size



Unit: mm(mil)