

US2AF THRU US2MF

Surface Mount Ultrafast Recovery Rectifier

Reverse Voltage – 50 to 1000 V

Forward Current – 2 A

Features

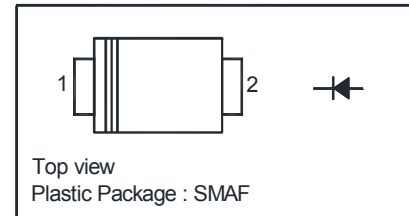
- Glass Passivated Chip Junction
- For surface mount applications
- Low profile package
- Easy pick and place

Mechanical Data

- **Terminals:** Solderable per MIL-STD-750, method 2026

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode

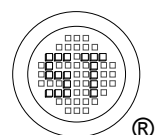


Maximum Ratings and Electrical Characteristics

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	US2AF	US2BF	US2DF	US2GF	US2JF	US2KF	US2MF	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 $T_C = 125^\circ\text{C}$	$I_{F(AV)}$	2							A
Peak Forward Surge Current 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	50							A
Maximum Forward Voltage at 2 A	V_F	1		1.3		1.65		V	
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_j = 25^\circ\text{C}$ $T_j = 125^\circ\text{C}$	I_R	5 100							μA
Maximum Reverse Recovery Time at $I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $I_{rr} = 0.25\text{ A}$	t_{rr}	50				75			ns
Typical Thermal Resistance ¹⁾	$R_{\theta JA}$ $R_{\theta JC}$	65 20							$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150							$^\circ\text{C}$

¹⁾ P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.



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Electrical Characteristic Curves

Fig.1 Forward Current Derating Curve

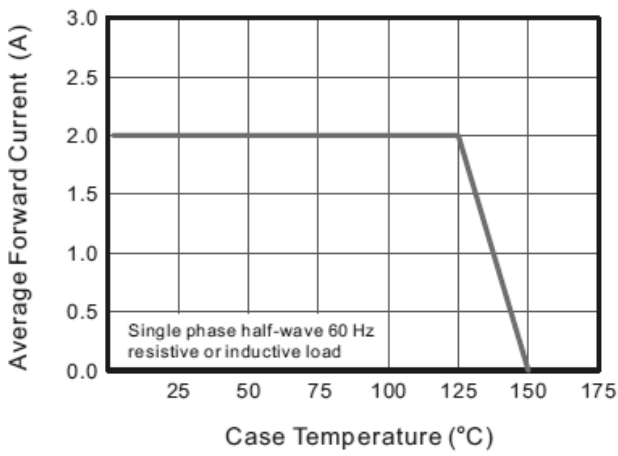


Fig.2 Typical Reverse Characteristics

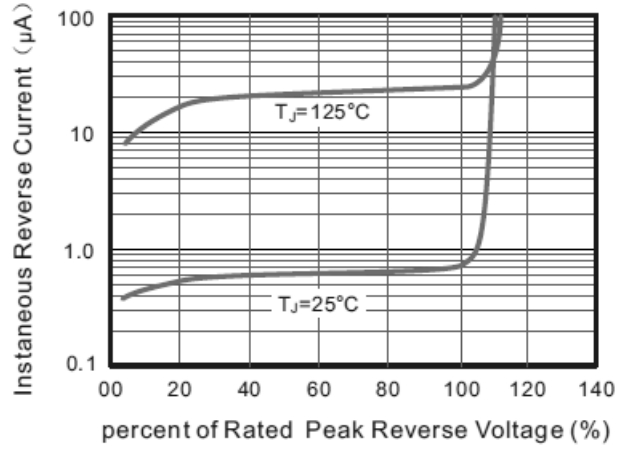


Fig.3 Typical Forward Characteristics

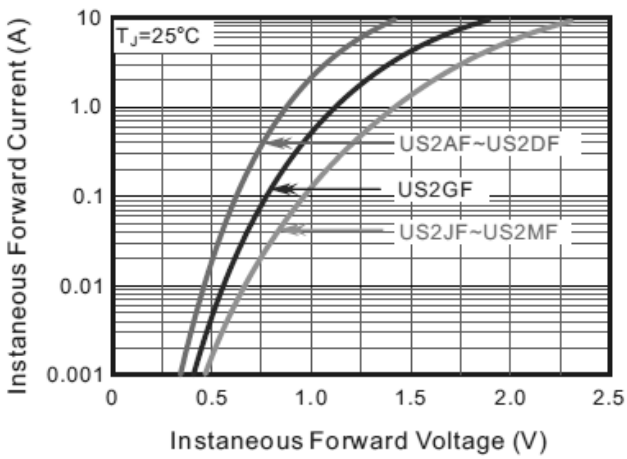
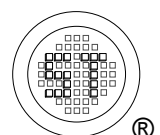
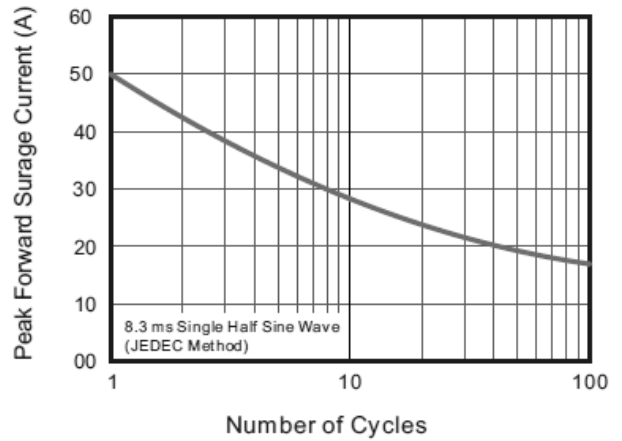


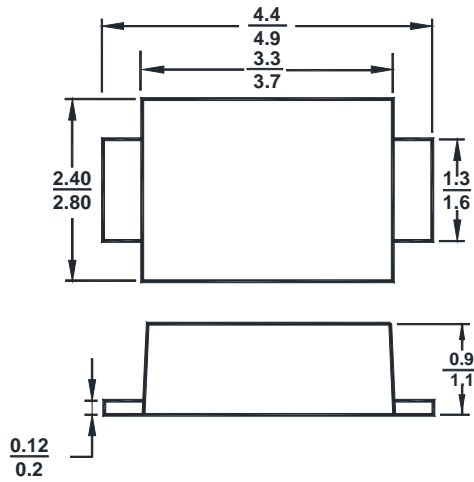
Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



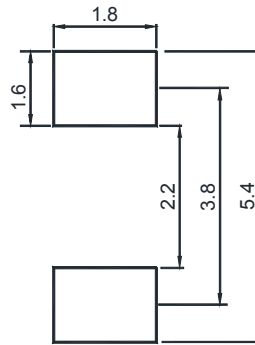
US2AF THRU US2MF

Package Outline Dimensions (Units: mm)

SMAF



Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SMAF	12	4 ± 0.1	(0.157 ± 0.004)	178	7	3,000

Marking information

"US2*" = Part No.

Type	Marking	Type	Marking	Type	Marking	Type	Marking
US2AF	US2A	US2BF	US2B	US2DF	US2D	US2GF	US2G
US2JF	US2J	US2KF	US2K	US2MF	US2M		

"III" = Cathode line

"YYWW" = Date Code Marking

"Y" = Year

"W" = Week

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