

US2AF THRU US2MF



Ultra Fast Recovery Rectifiers

Reverse Voltage: 50 to 1000 Volts

Forward Current: 2.0 Ampere

RoHS Device

Halogen Free



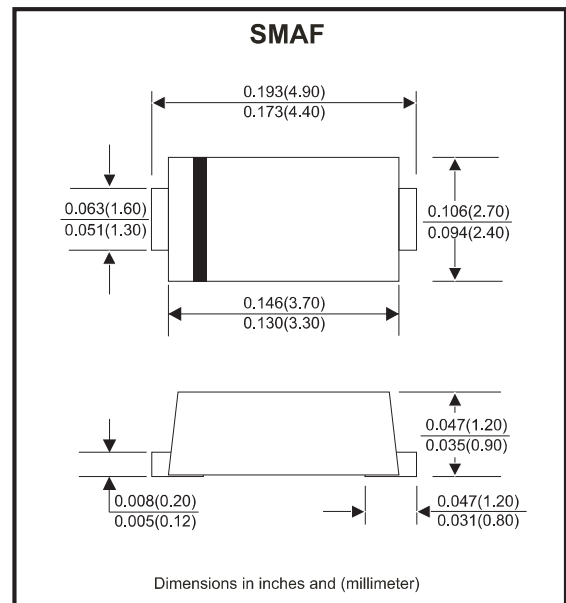
Features

- For surface mounted applications.
- Low profile package.
- Glass passivated chip junction.
- Easy to pick and place.
- High efficiency.

Mechanical data

- Case: SMAF
- Terminals: Solderable per MIL-STD-750, method 2026.

Circuit Diagram



Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz resistive or inductive load, for capacitive load, 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°C	I _{F(AV)}	2							A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I _{FSM}	50							A
Max. instantaneous forward voltage at 2A	V _F	1.0			1.3	1.65			V
Maximum DC reverse current T _a = 25°C at rated DC blocking voltage T _a =125°C	I _R	5 100							μA
Maximum reverse recovery time (Note 1)	t _{rr}	50				75			ns
Typical thermal resistance (Note 2)	R _{θJA} R _{θJC}	65 20							°C/W
Operating and storage temperature range	T _j , T _{stg}	-55 ~ +150							°C

Notes: 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.

Company reserves the right to improve product design , functions and reliability without notice.

Rev:1.0

Rating and Characteristic Curves

Fig.1 - Forward Current Derating Curve

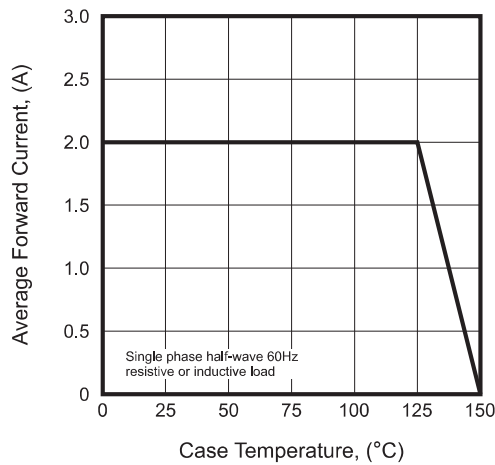


Fig.2 - Typical Reverse Characteristics

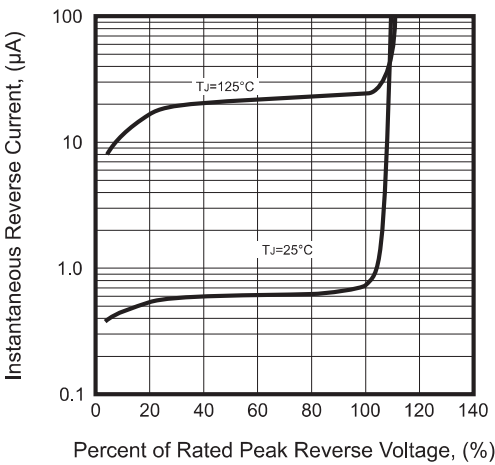


Fig.3 - Typical Forward Characteristic

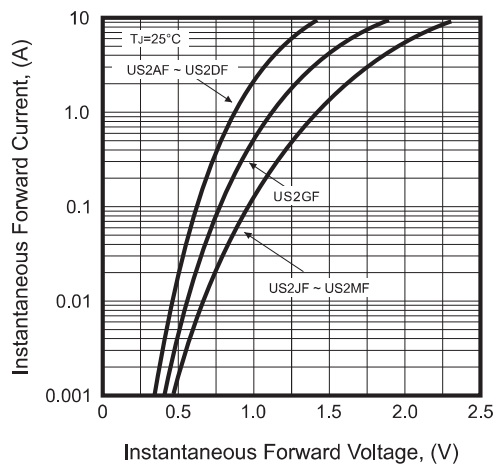
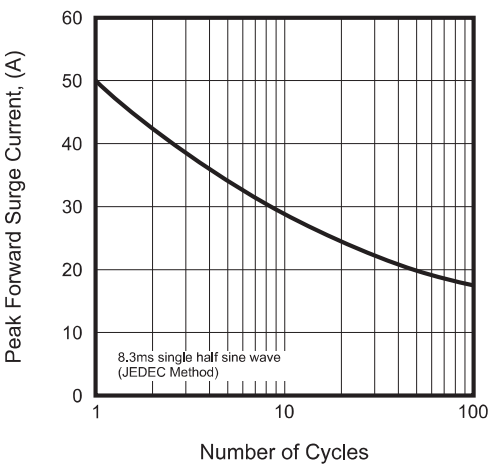
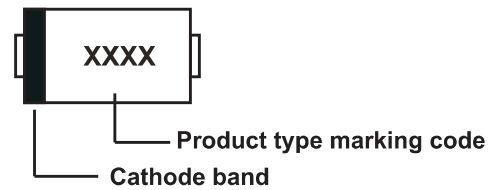


Fig.4 - Maximum Non-Repetitive Peak Forward Surge Current



Marking Code

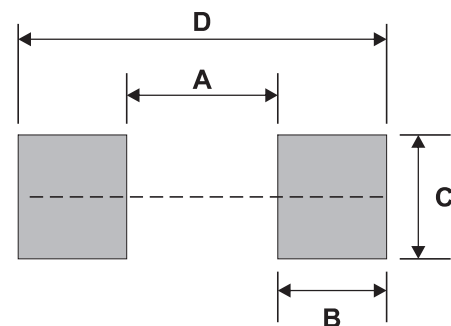
Part Number	Marking Code
US2AF	US2A
US2BF	US2B
US2DF	US2D
US2GF	US2G
US2JF	US2J
US2KF	US2K
US2MF	US2M



xxxx = Product type marking code

Suggested PAD Layout

SIZE	SMAF	
	(mm)	(inch)
A	2.20	0.087
B	1.60	0.063
C	1.80	0.071
D	5.40	0.213



Note: 1. The pad layout is for reference purpose only.

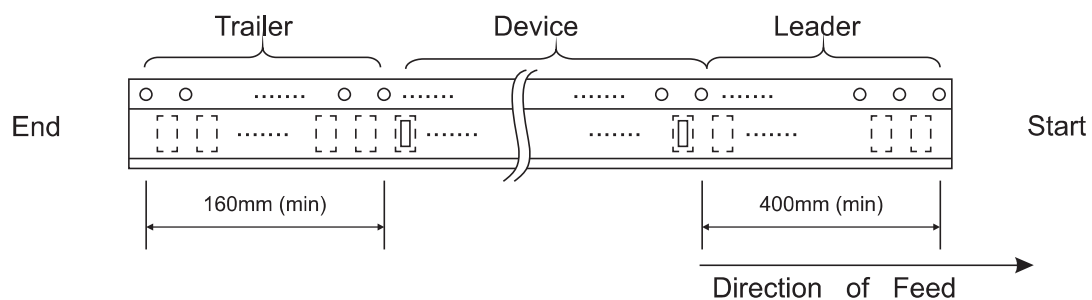
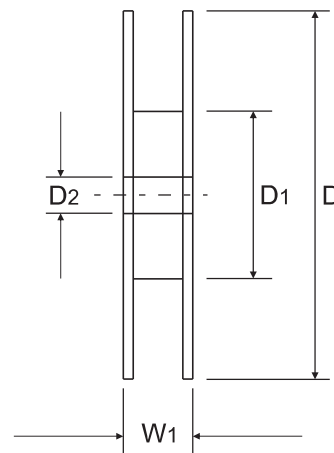
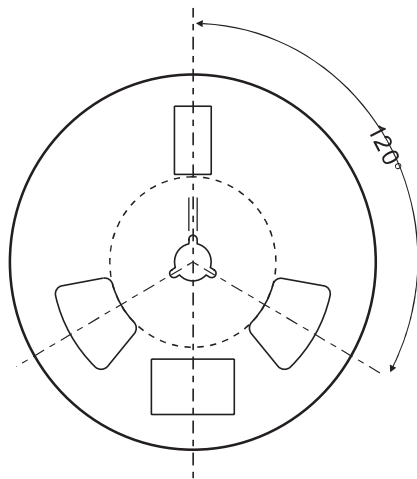
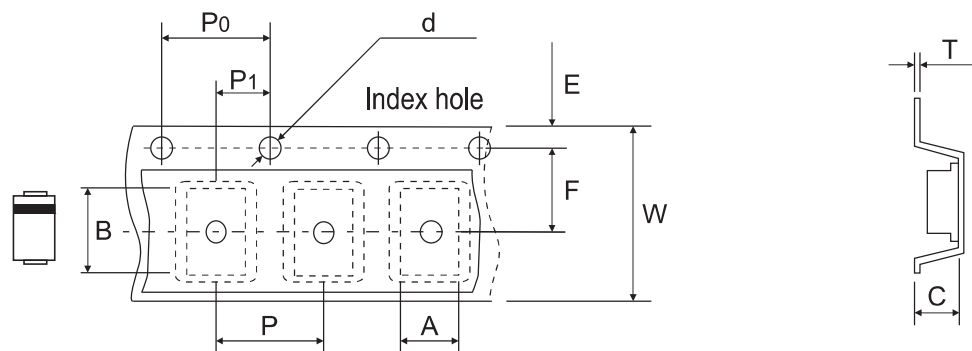
Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SMAF	10,000	13

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Reel Taping Specification



SMAF	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	2.93 ± 0.10	5.33 ± 0.10	1.33 ± 0.10	1.55 ± 0.05	330 ± 2.00	75.00 ± 1.00	13.00 ± 0.20
	(inch)	0.115 ± 0.004	0.210 ± 0.004	0.052 ± 0.004	0.061 ± 0.002	12.992 ± 0.079	2.953 ± 0.039	0.512 ± 0.008

SMAF	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.73 ± 0.10	5.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	0.20 ± 0.03	12.00 ± 0.30	$14.70 + 2.00 - 1.00$
	(inch)	0.068 ± 0.004	0.217 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.008 ± 0.001	0.472 ± 0.012	$0.579 + 0.079 - 0.039$

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