



US1AF SERIES

SURFACE MOUNT ULTRA FAST RECTIFIER

VOLTAGE 50-600 Volts **CURRENT** 1 Ampere

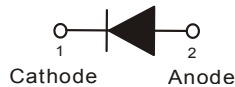
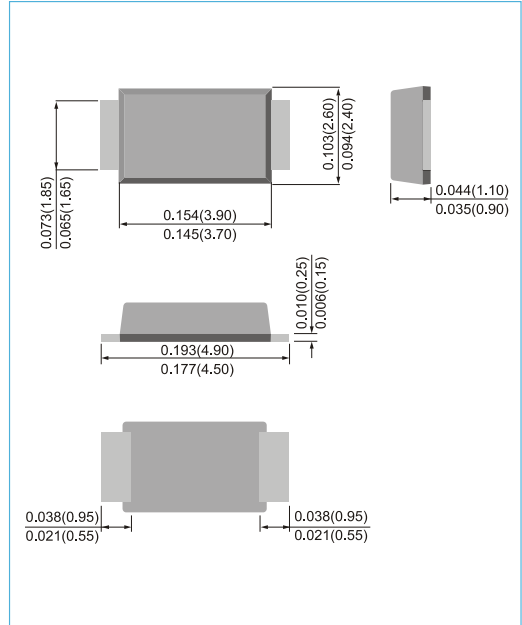
SMAF Unit : inch(mm)

FEATURES

- For surface mounted applications
- Low profile package
- Built-in strain relief
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction
- Lead free in comply with EU RoHS 2002/95/EC directives.
- Green molding compound as per IEC61249 Std. . (Halogen Free)

MECHANICAL DATA

- Case: SMAF molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Color band denotes cathode end
- Approx. Weight: 0.0011 ounces, 0.0328 grams



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	US1AF	US1BF	US1DF	US1GF	US1JF	UNITS
Recurrent Peak Reverse Voltage	V _{RRM}	50	100	200	400	600	V
RMS Voltage	V _{RMS}	35	70	140	280	420	V
DC Blocking Voltage	V _R	50	100	200	400	600	V
Average Forward Current	I _{F(AV)}	1					A
Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load(JEDEC method)	I _{FSM}	30					A
Forward Voltage at 1.0A	V _F	1.0		1.4	1.7	V	
DC Reverse Current at Rated DC Blocking Voltage T _J =25°C	I _R	1.0					μA
Typical Junction capacitance V _R =4V,f=1MHz	C _J	20		15	10	pF	
Typical Thermal Resistance ,Junction to Lead (Note 1) Junction to Ambient (Note 2)	R _{θJL} R _{θJA}	19 150					°C / W
Reverse Recovery Time (I _F =0.5A, I _R =1.0A,I _{rr} =0.25A)	T _{rr}	50			100	ns	
Operating Junction Temperature and Storage Temperature Range	T _J ,T _{STG}	-55 to +150					°C

NOTES : 1. Mounted on an FR4 PCB, single-sided copper, with 48cm² copper pad area
2. Mounted on an FR4 PCB, single-sided copper, mini pad.



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RATING AND CHARACTERISTIC CURVES

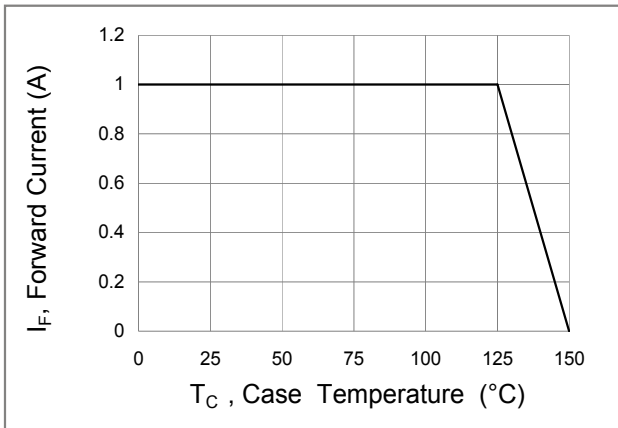


Fig.1 Forward Current Derating Curve

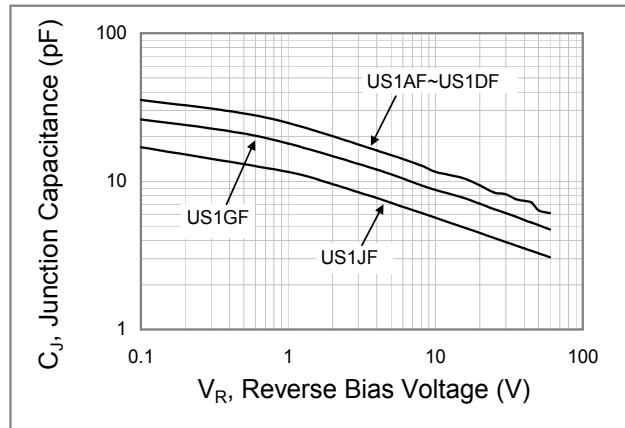


Fig.2 Typical Junction Capacitance

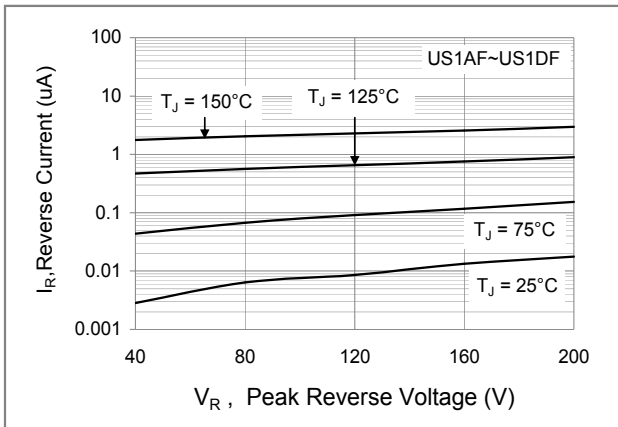


Fig.3 Typical Reverse Characteristics

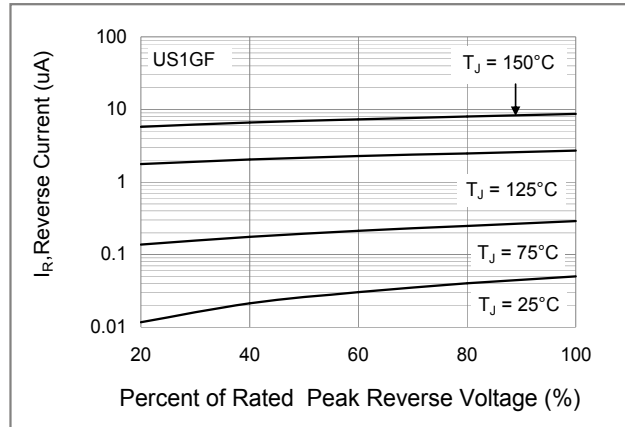


Fig.4 Typical Reverse Characteristics

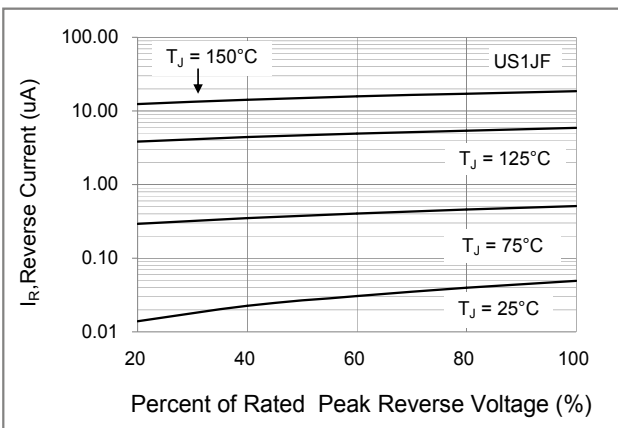


Fig.5 Typical Reverse Characteristics

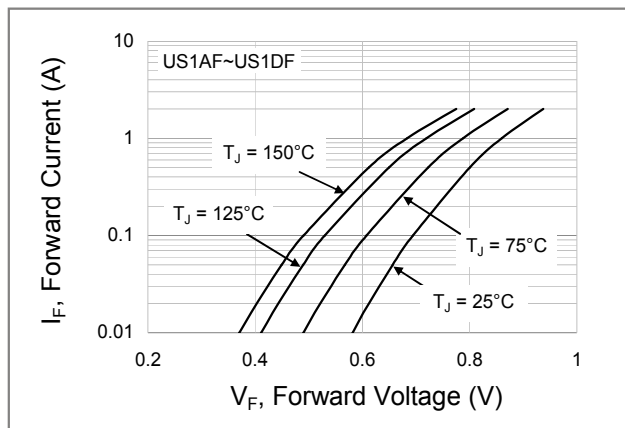


Fig.6 Typical Forward Characteristics



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RATING AND CHARACTERISTIC CURVES

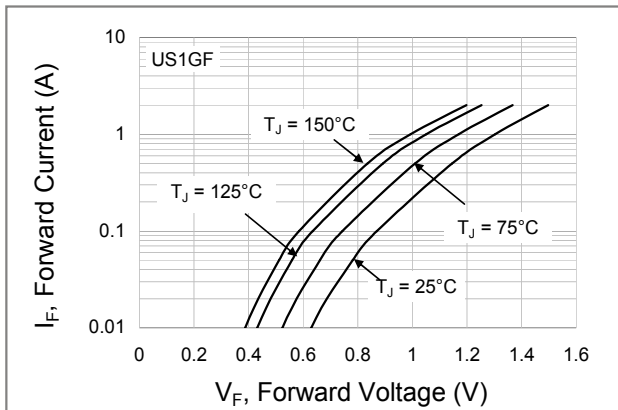


Fig.7 Typical Forward Characteristics

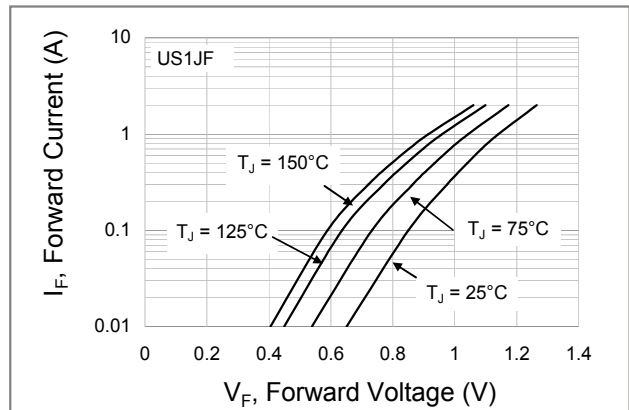
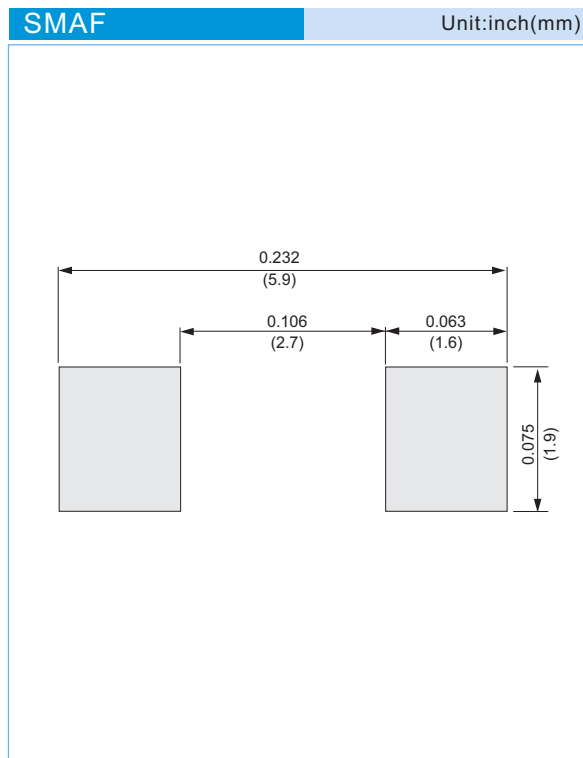


Fig.8 Typical Forward Characteristics



US1AF SERIES

MOUNTING PAD LAYOUT



ORDER INFORMATION

- Packing information
 - T/R - 10K per 13" plastic Reel
 - T/R - 3K per 7" plastic Reel

LEGAL STATEMENT

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US1AF SERIES

For example :

RB500V-40_R2_00001



Packing Code XX				Version Code XXXXX		
Packing type	1 st Code	Packing size code	2 nd Code	HF or RoHS	1 st Code	2 nd ~5 th Code
T/B	A	N/A	0	HF	0	serial number
T/R	R	7"	1	RoHS	1	serial number
B/P	B	13"	2			
T/P	T	26mm	X			
TRR	S	52mm	Y			
TRL	L	PBCU	U			
FORMING	F	PBCD	D			

Part No_packing code_Version

US1AF_R1_00001

US1AF_R2_00001