



# US1AWZ SERIES

## SURFACE MOUNT ULTRAFAST RECTIFIER

**VOLTAGE** 50 to 1000 Volts **CURRENT** 1.0 Amperes

**SMA(W)**

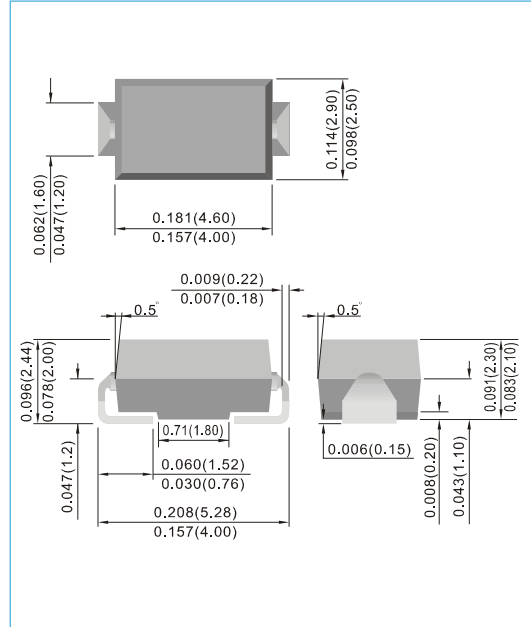
Unit : inch(mm)

### 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-O
- Glass passivated junction
- Lead free in comply with EU RoHS 2002/95/EC directives.

### MECHANICAL DATA

- Case: SMA(W) molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Standard packaging: 12mm tape (EIA-481)
- Weight: 0.002 ounce, 0.064 gram



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

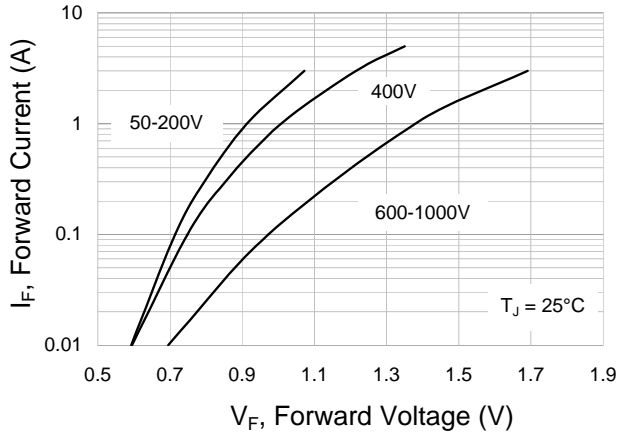
Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

PARAMETER	SYMBOL	US1AWZ	US1BWZ	US1DWZ	US1GWZ	US1JWZ	US1KWZ	US1MWZ	UNITS
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	800	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum Average Forward Current Derate Above $T_L=110^\circ\text{C}$	$I_{F(AV)}$	1.0							A
Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30							A
Maximum Forward Voltage at 1.0A	$V_F$		1.0		1.4		1.7		V
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_J=25^\circ\text{C}$ $T_J=125^\circ\text{C}$	$I_R$				1.0 100				$\mu\text{A}$
Typical Junction Capacitance (Note 2)	$C_J$				17				pF
Typical Thermal Resistance (Note 3)	$R_{\theta JL}$				30				$^\circ\text{C} / \text{W}$
Maximum Reverse Recovery Time (Note 1)	$t_{rr}$		50			100			ns
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-50 to +150							$^\circ\text{C}$

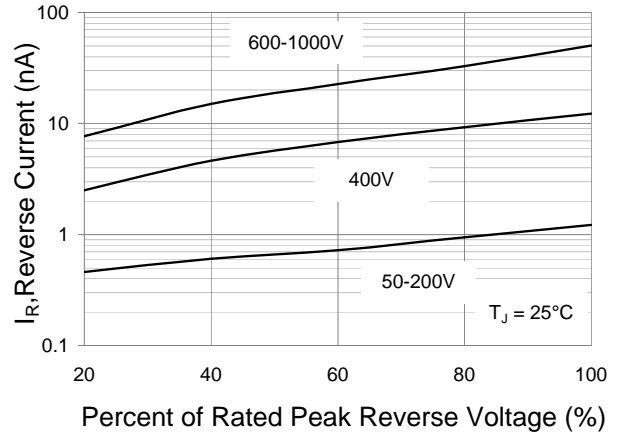
NOTES: 1. Reverse Recovery Test Conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$   
2. Measured at 1 MHz and applied  $V_r = 4.0$  volts.  
3.  $8.0 \text{ mm}^2$  ( .013mm thick ) land areas.



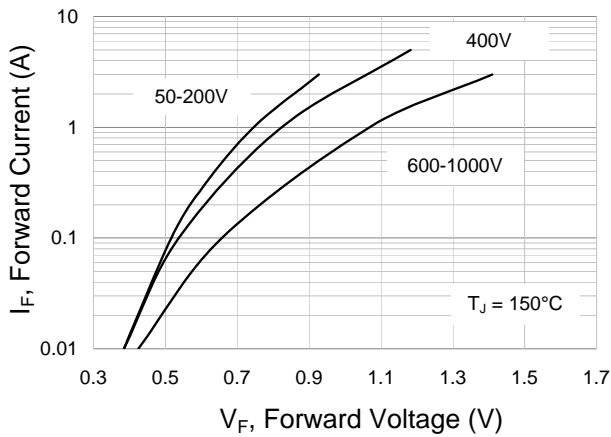
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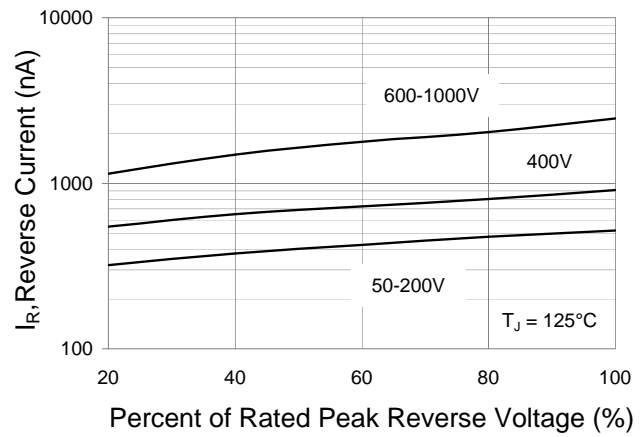
**Fig.1 Typical Forward Characteristics**



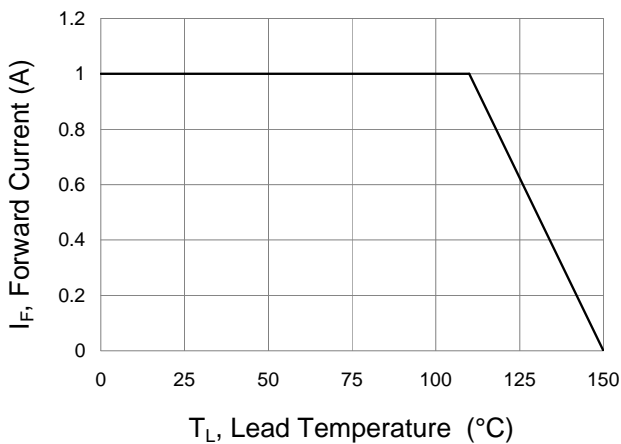
**Fig.2 Typical Reverse Characteristics**



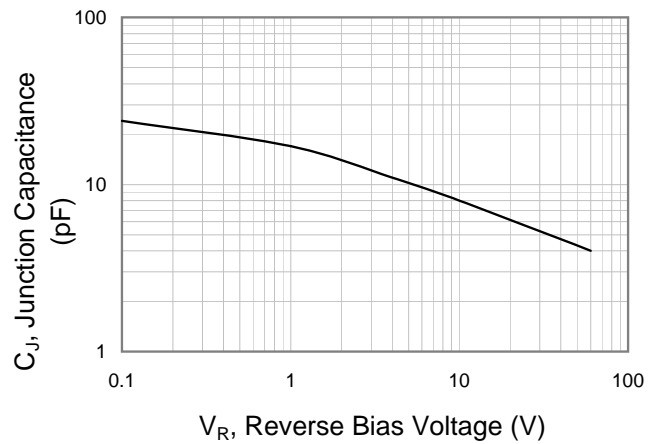
**Fig.3 Typical Forward Characteristics**



**Fig.4 Typical Reverse Characteristics**



**Fig.5 Forward Current Derating Curve**

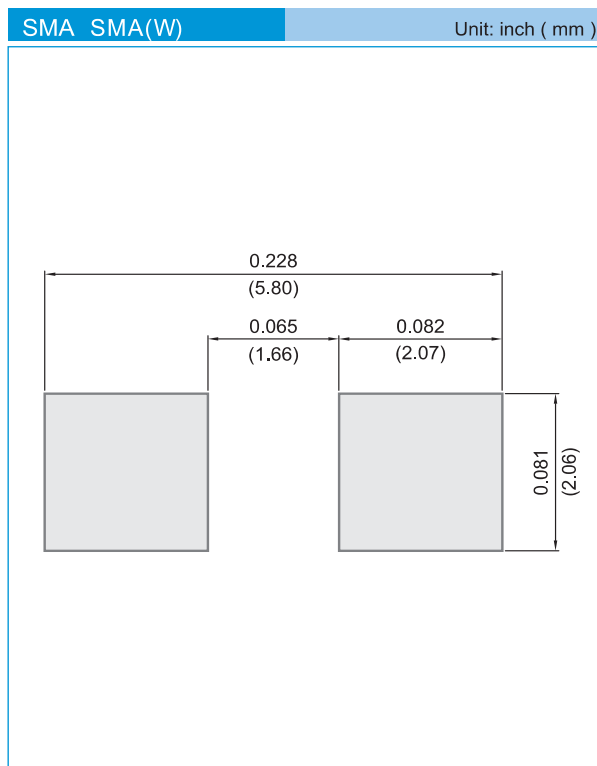


**Fig.6 Typical Junction Capacitance**



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## MOUNTING PAD LAYOUT



## ORDER INFORMATION

- Packing information
  - T/R - 7.5K per 13" plastic Reel
  - T/R - 1.8Kper 7" plastic Reel

## LEGAL STATEMENT

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