



# US1AW SERIES

## SURFACE MOUNT ULTRAFAST RECTIFIER

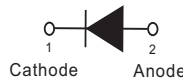
**VOLTAGE** 50 to 1000 Volt **CURRENT** 1 Ampere

### FEATURES

- For surface mounted applications in order to optimize board space
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

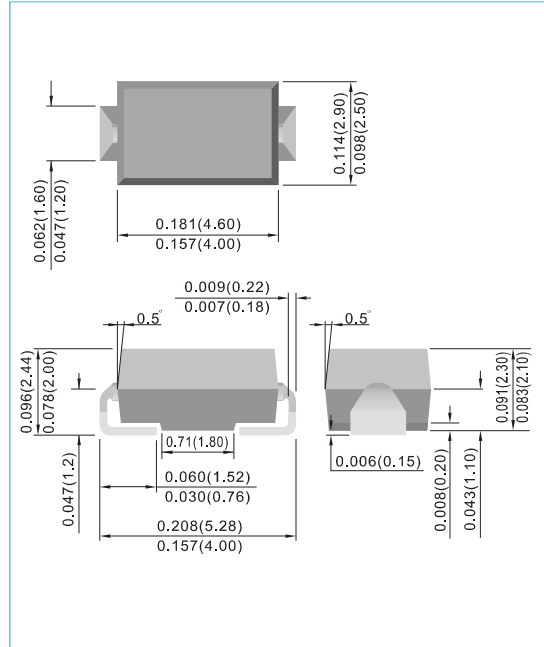
### MECHANICAL DATA

- 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



### SMA(W)

Unit : inch(mm)



### 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%.

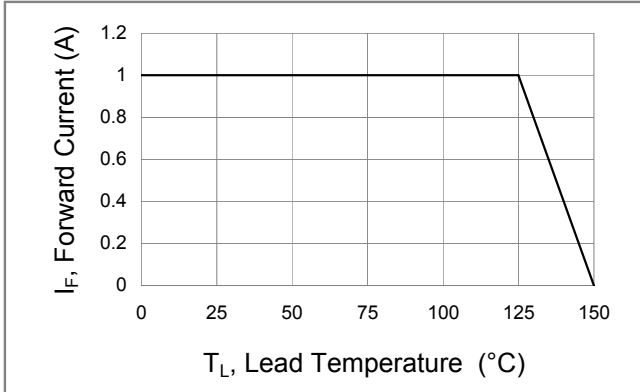
PARAMETER	SYMBOL	US1AW	US1BW	US1DW	US1GW	US1JW	US1KW	US1MW	UNITS
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum Average Forward Current at $T_L=125^\circ\text{C}$	$I_{F(AV)}$	1							A
Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30							A
Maximum Forward Voltage at 1A	$V_F$	1		1.3		1.7		V	
Maximum DC Reverse Current at Rated DC Blocking Voltage	$I_R$	10							$\mu\text{A}$
Typical Junction Capacitance (Notes 2)	$C_J$	17							pF
Typical Thermal Resistance (Notes 3)	$R_{\theta JL}$	30							$^\circ\text{C} / \text{W}$
Maximum Reverse Recovery Time (Notes 1)	$t_{rr}$	50				100			ns
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150							$^\circ\text{C}$

#### NOTES:

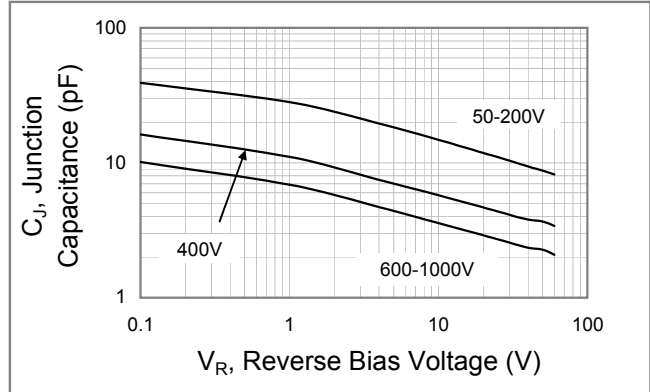
1. Reverse recovery test conditions:  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$ .
2. Measured at 1 MHz and applied  $V_r = 4.0$  volts.
3. Mounted on infinite heatsink.



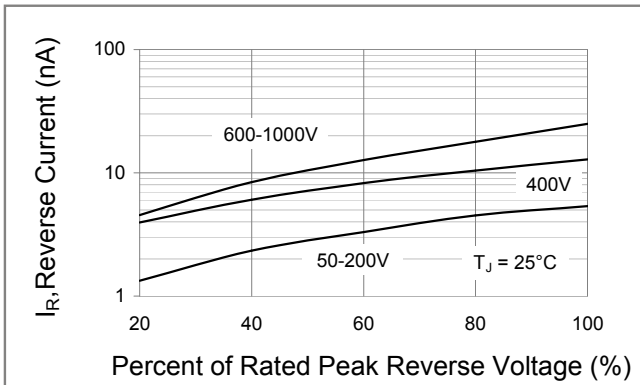
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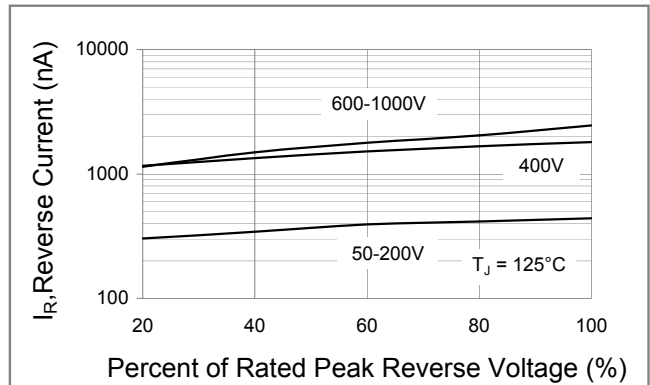
**Fig.1 - Forward Current Derating Curve**



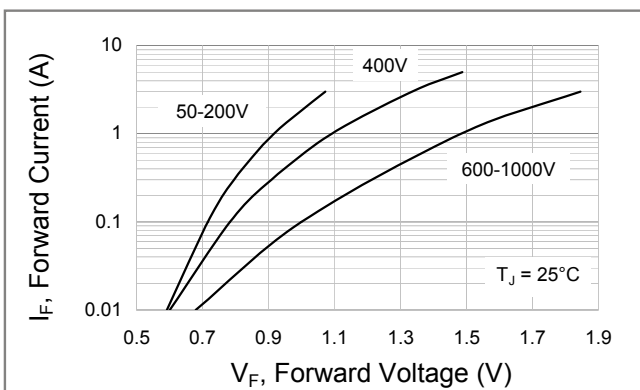
**Fig.2 - Typical Junction Capacitance**



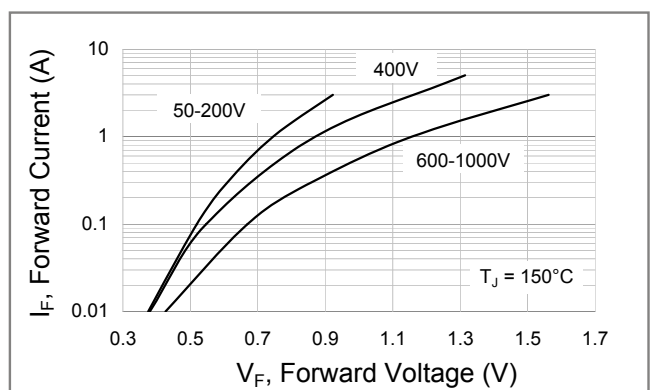
**Fig.3 - Typical Reverse Characteristics**



**Fig.4 - Typical Reverse Characteristics**



**Fig.5 - Typical Forward Characteristics**



**Fig.6 - Typical Forward Characteristics**

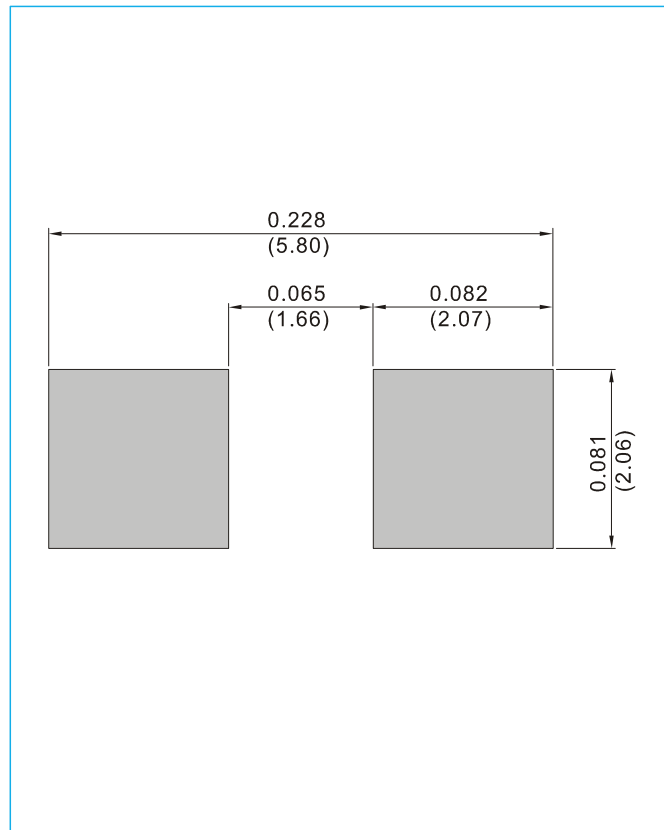


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## MOUNTING PAD LAYOUT

SMA(W)

Unit : inch(mm)



## ORDER INFORMATION

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



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## Part No\_packing code\_Version

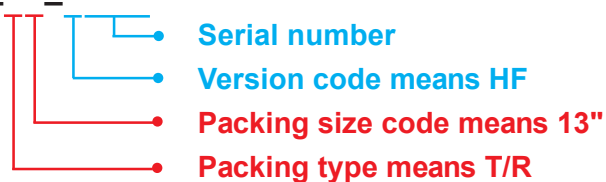
US1AW\_R1\_00001

US1AW\_R2\_00001

For example :

**RB500V-40\_R2\_00001**

Part No.



Packing Code <b>XX</b>				Version Code <b>XXXXX</b>		
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HF or RoHS	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	<b>A</b>	N/A	<b>0</b>	<b>HF</b>	<b>0</b>	serial number
Tape and Reel (T/R)	<b>R</b>	7"	<b>1</b>	<b>RoHS</b>	<b>1</b>	serial number
Bulk Packing (B/P)	<b>B</b>	13"	<b>2</b>			
Tube Packing (T/P)	<b>T</b>	26mm	<b>X</b>			
Tape and Reel (Right Oriented) (TRR)	<b>S</b>	52mm	<b>Y</b>			
Tape and Reel (Left Oriented) (TRL)	<b>L</b>	PANASERT T/B CATHODE UP (PBCU)	<b>U</b>			
FORMING	<b>F</b>	PANASERT T/B CATHODE DOWN (PBCD)	<b>D</b>			



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