



# US1AWG SERIES

## SURFACE MOUNT ULTRAFAST RECTIFIER

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

### FEATURES

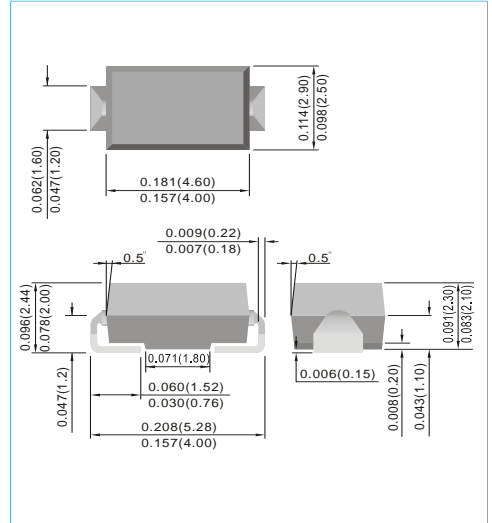
- For surface mounted applications in order to optimize board space
- Easy pick and place
- Ultrafast recovery times for high efficiency
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### 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 : 0.0023 ounce, 0.0679 gram



### SMA(W) Unit : inch(mm)



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

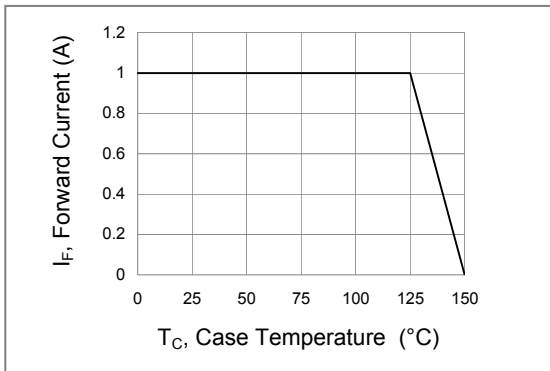
Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.

PARAMETER	SYMBOL	US1AWG	US1BWG	US1DWG	US1GWG	US1JWG	US1KWG	US1MWG	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	$I_{F(AV)}$	1							A
Peak Forward Surge Current : 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	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							$\mu$ A
Typical Junction Capacitance	$C_J$	17							pF
Typical Thermal Resistance (Note 1) (Note 2)	$R_{\theta JA}$ $R_{\theta JL}$					150 35		$^{\circ}$ C / W	
Maximum Reverse Recovery Time (Note 3)	$T_{RR}$	50				100		ns	
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150							$^{\circ}$ C

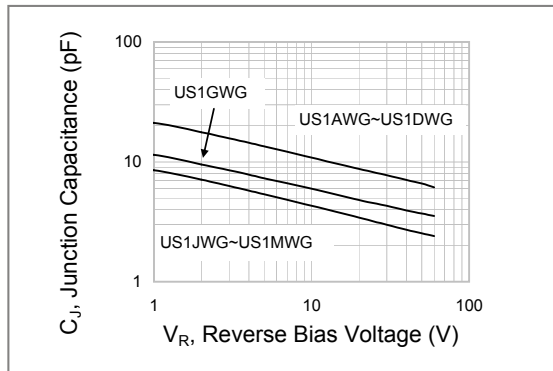
NOTES: 1. Mounted on an FR4 PCB, single-sided copper, mini pad.  
2. Mounted on an FR4 PCB, single-sided copper, with 76.2 x 114.3mm copper pad area.  
3. Reverse Recovery Test Conditions:  $I_F=0.5A$ ,  $I_R=1A$ , Recover to 0.25A.



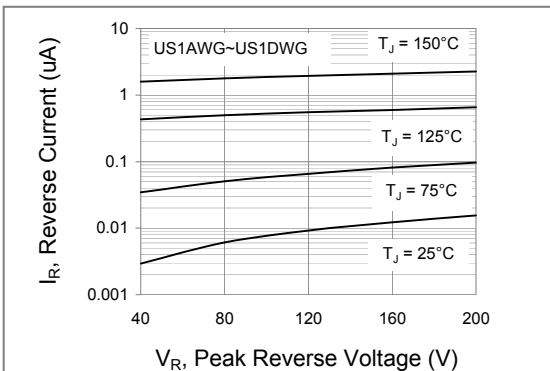
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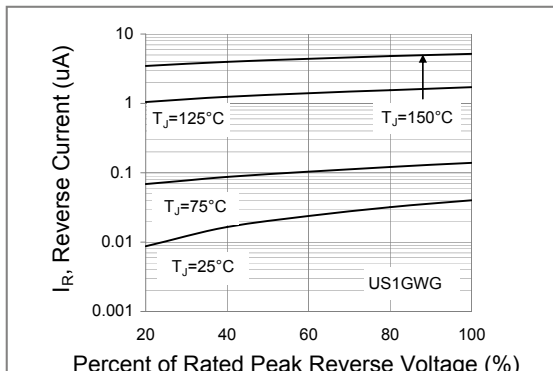
**Fig.1 Forward Current Derating Curve**



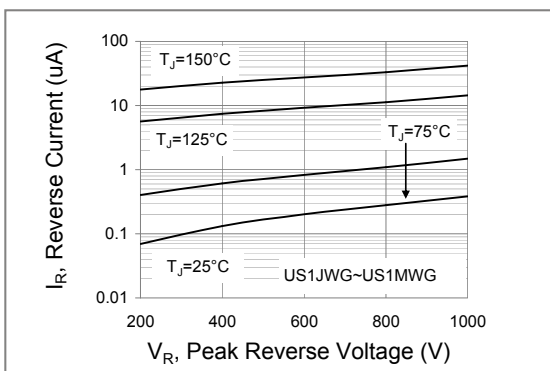
**Fig.2 Typical Junction Capacitance**



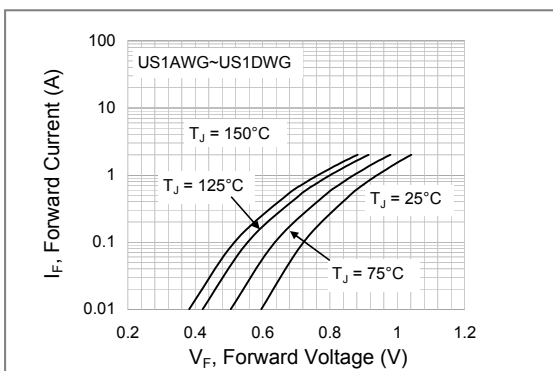
**Fig.3 Typical Reverse Characteristics**



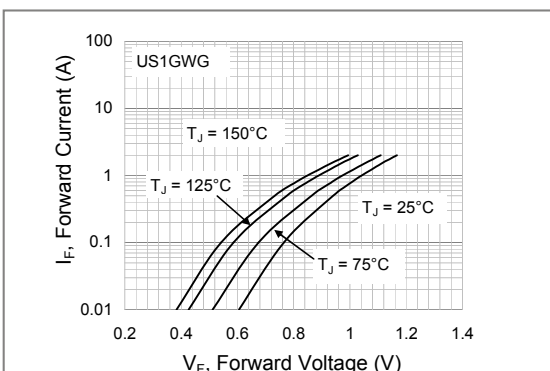
**Fig.4 Typical Reverse Characteristics**



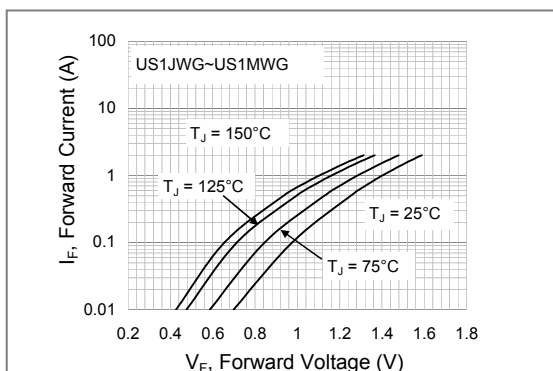
**Fig.5 Typical Reverse Characteristics**



**Fig.6 Typical Forward Characteristics**



**Fig.7 Typical Forward Characteristics**



**Fig.8 Typical Forward Characteristics**

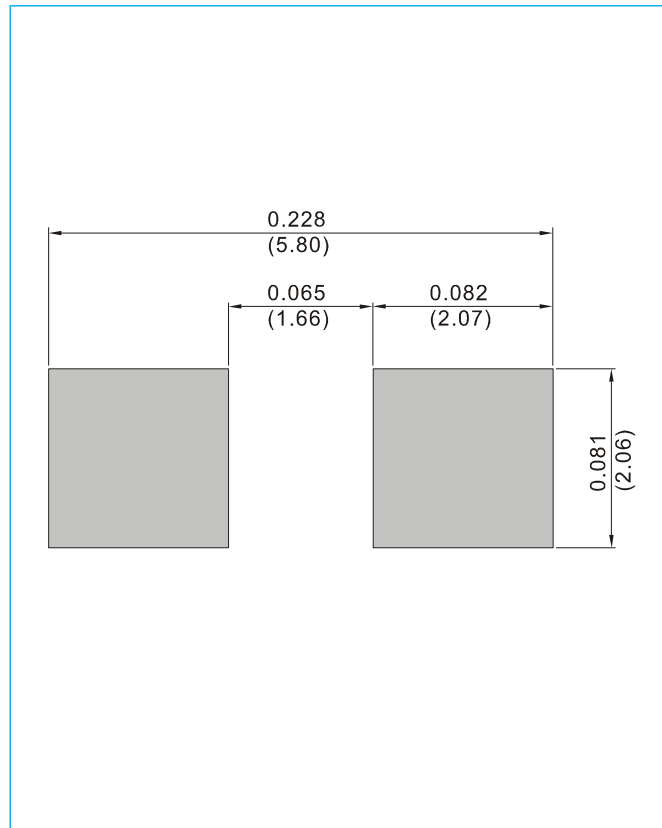


## US1AWG SERIES

### 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



# US1AWG SERIES

**Part No\_packing code\_Version**

US1AWG\_R1\_00001

US1AWG\_R2\_00001

For example :

**RB500V-40\_R2\_00001**



Packing Code <b>XX</b>				Version Code <b>XXXXXX</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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