

**Surface Mount Ultrafast Recovery Rectifier**
**Reverse Voltage - 50 to 1000 V**
**Forward Current - 5 A**
**FEATURES**

- ◆ For surface mounted applications
- ◆ Low profile package
- ◆ Glass Passivated Chip Junction
- ◆ High efficiency
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives

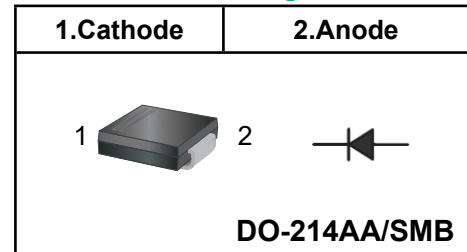

**MECHANICAL DATA**

- ◆ Case: DO-214AA/SMB
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026
- ◆ Approx. Weight: 0.055g / 0.002oz

**Maximum Ratings and characteristics**

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

**Pinning**

**Marking Code**

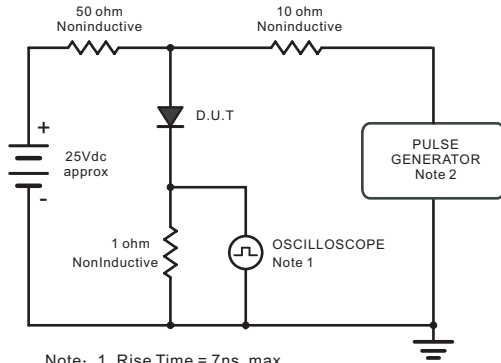
<b>US5A</b>	<b>US5A</b>
<b>US5B</b>	<b>US5B</b>
<b>US5D</b>	<b>US5D</b>
<b>US5G</b>	<b>US5G</b>
<b>US5J</b>	<b>US5J</b>
<b>US5K</b>	<b>US5K</b>
<b>US5M</b>	<b>US5M</b>

Parameter	Symbols	US5A	US5B	US5D	US5G	US5J	US5K	US5M	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 $T_c = 125\text{ }^\circ\text{C}$	$I_{F(AV)}$	5							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	$I_{FSM}$	120							A
Maximum Instantaneous Forward Voltage at 5A	$V_F$	0.95		1.3		1.7		V	
Maximum DC Reverse Current $T_a = 25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 125\text{ }^\circ\text{C}$	$I_R$	5 100							$\mu\text{A}$
Maximum Reverse Recovery Time <sup>(1)</sup>	$T_{rr}$	50				75			nS
Typical Thermal Resistance <sup>(2)</sup>	$R_{\theta JA}$	35							$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 ~ +150							$^\circ\text{C}$

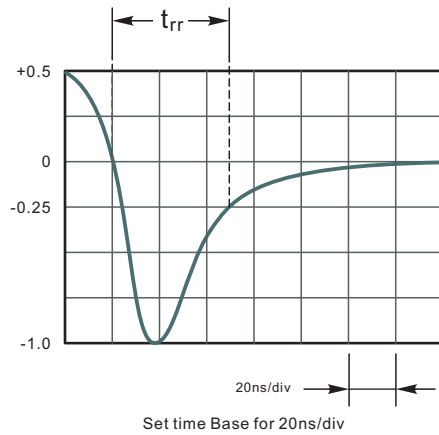
 (1) Measured with  $I_F=0.5\text{A}, I_R=1\text{A}, I_n=0.25\text{A}$ 

(2) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

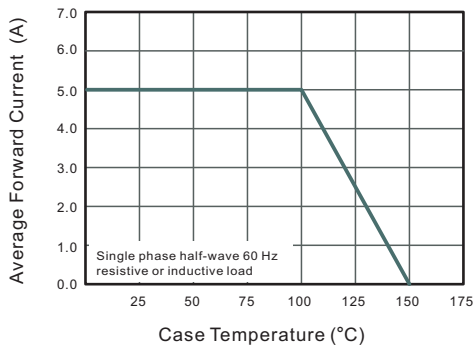
**Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram**



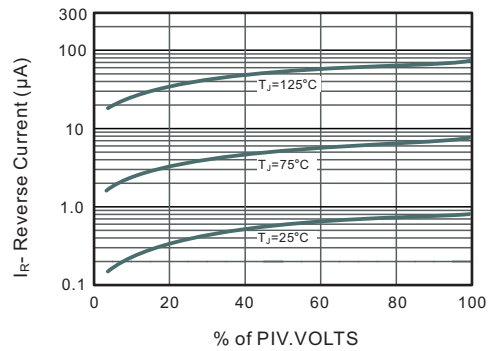
Note: 1. Rise Time = 7ns, max.  
Input Impedance = 1megohm, 22pF.  
2. Rises Time = 10ns, max.  
Source Impedance = 50 ohms.



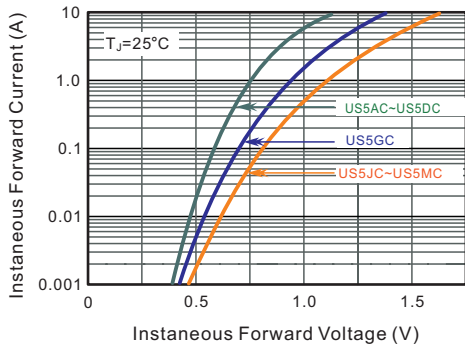
**Fig.2 Maximum Average Forward Current Rating**



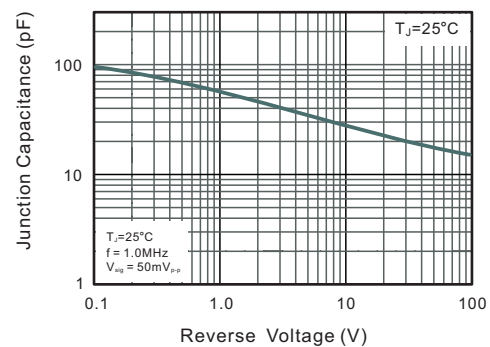
**Fig.3 Typical Reverse Characteristics**



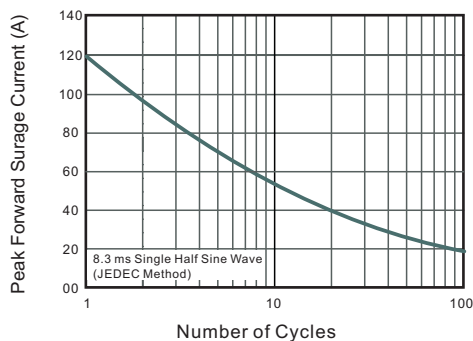
**Fig.4 Typical Forward Characteristics**



**Fig.5 Typical Junction Capacitance**

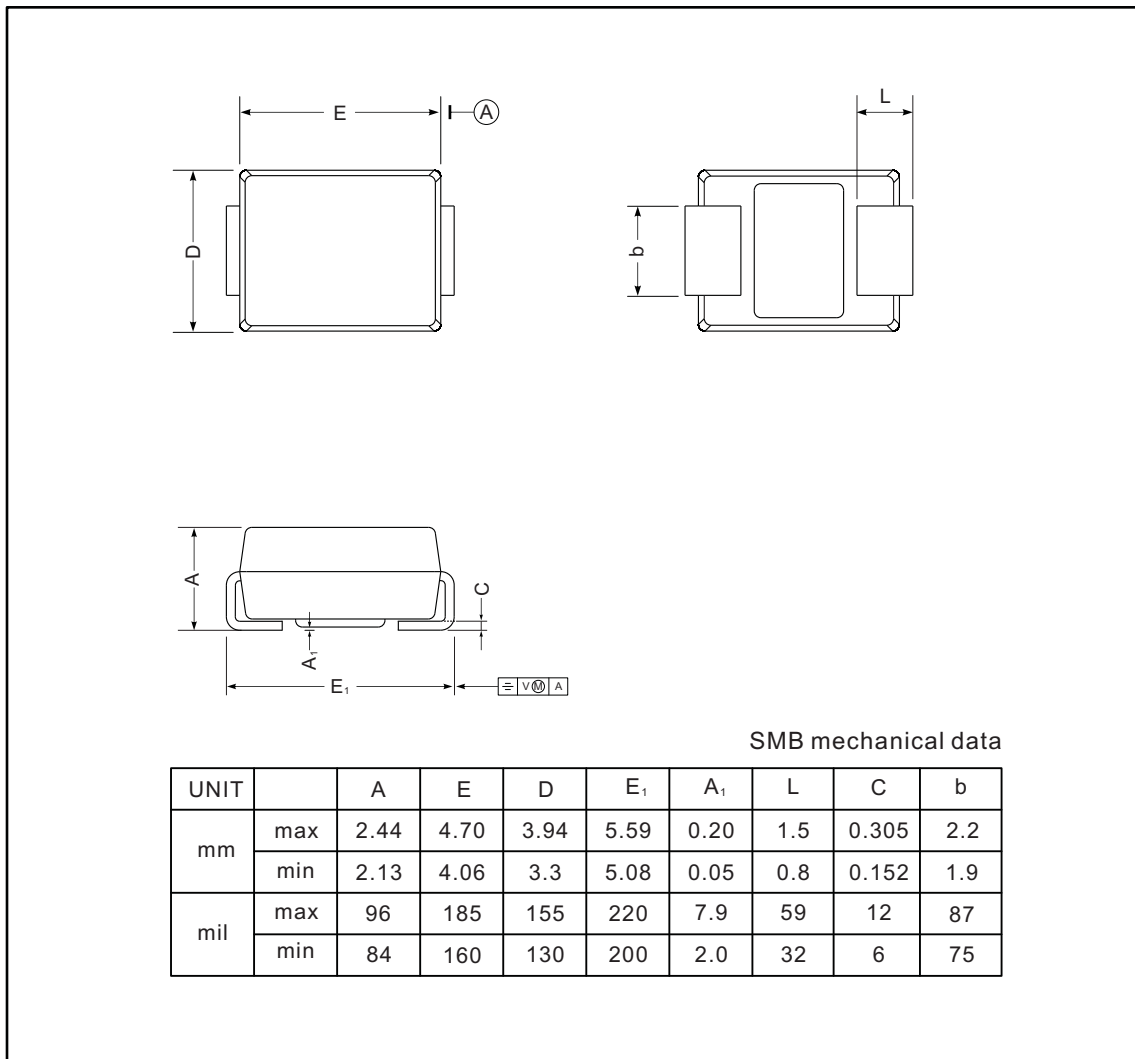


**Fig.6 Maximum Non-Repetitive Peak Forward Surge Current**



**PACKAGE OUTLINE**

Plastic surface mounted package; 2 leads

**SMB**

**The recommended mounting pad size**
