

## Surface Mount Ultrafast Recovery Rectifier

Reverse Voltage - 50 to 1000 V

Forward Current - 8 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

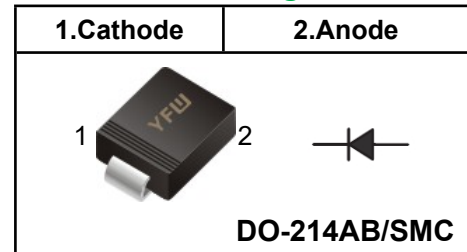
### MECHANICAL DATA

- ◆ Case: DO-214AB/SMC
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026
- ◆ Approx. Weight: 0.22g / 0.0077oz

### 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

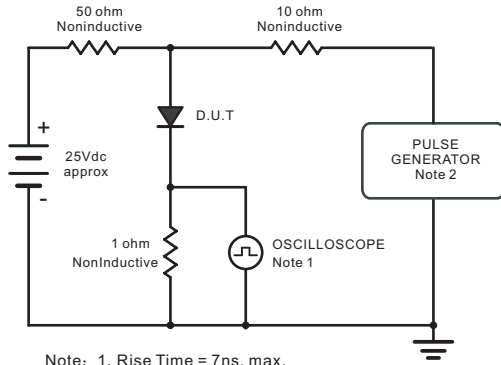
<b>US8AC</b>	<b>US8A</b>
<b>US8BC</b>	<b>US8B</b>
<b>US8DC</b>	<b>US8D</b>
<b>US8GC</b>	<b>US8G</b>
<b>US8JC</b>	<b>US8J</b>
<b>US8KC</b>	<b>US8K</b>
<b>US8MC</b>	<b>US8M</b>

Parameter	Symbols	US8AC	US8BC	US8DC	US8GC	US8JC	US8KC	US8MC	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 $T_c = 125\text{ }^\circ\text{C}$	$I_{F(AV)}$	8							A	
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	$I_{FSM}$	150							A	
Maximum Instantaneous Forward Voltage at 8A	$V_F$	0.95			1.25	1.65			V	
Maximum DC Reverse Current $T_a = 25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 125\text{ }^\circ\text{C}$	$I_R$	10					100			$\mu\text{A}$
Maximum Reverse Recovery Time <sup>(1)</sup>	$T_{rr}$	50				80				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							$^\circ\text{C}$	

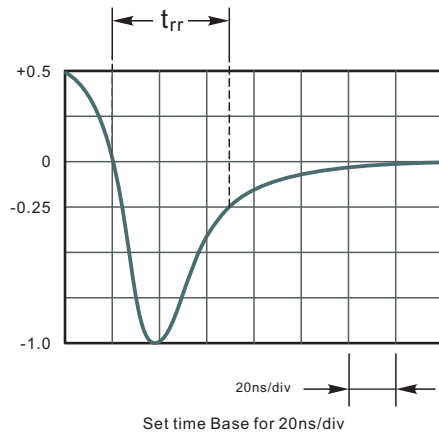
(1) Measured with  $I_F=0.5\text{A}, I_R=1\text{A}, I_n=0.25\text{A}$

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

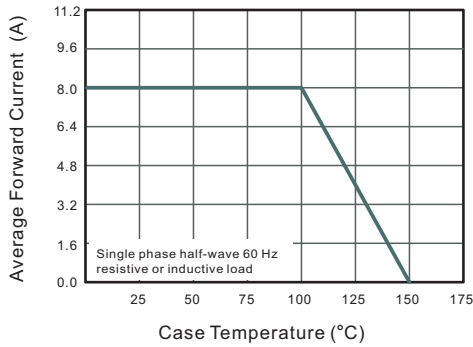
**Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram**



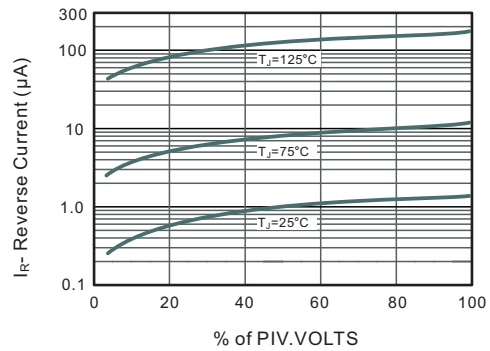
Note: 1. Rise Time = 7ns, max.  
Input Impedance = 1megohm, 22pF.  
2. Rises Time = 10ns, max.  
Source Impedance = 50 ohms.



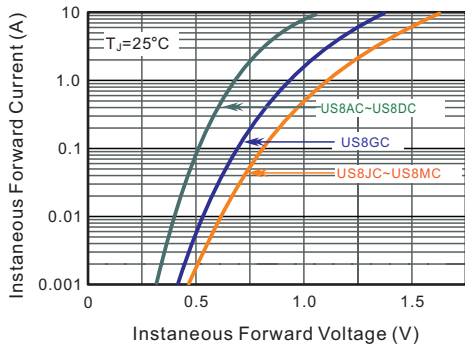
**Fig.2 Maximum Average Forward Current Rating**



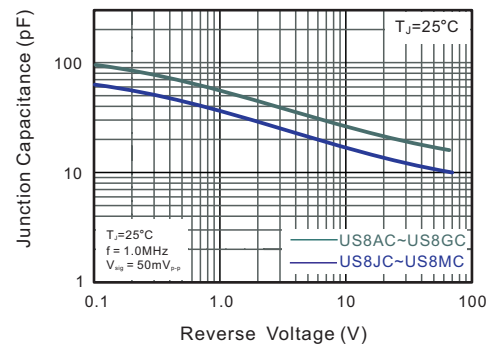
**Fig.3 Typical Reverse Characteristics**



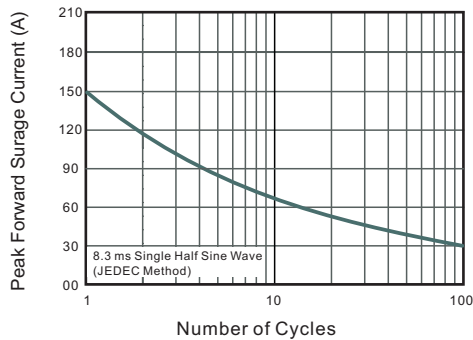
**Fig.4 Typical Forward Characteristics**



**Fig.5 Typical Junction Capacitance**

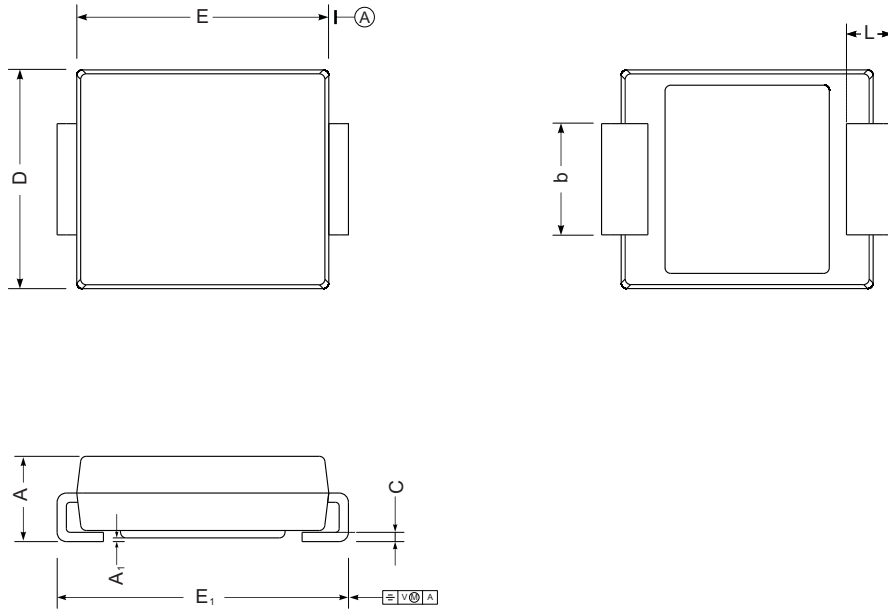


**Fig.6 Maximum Non-Repetitive Peak Forward Surge Current**



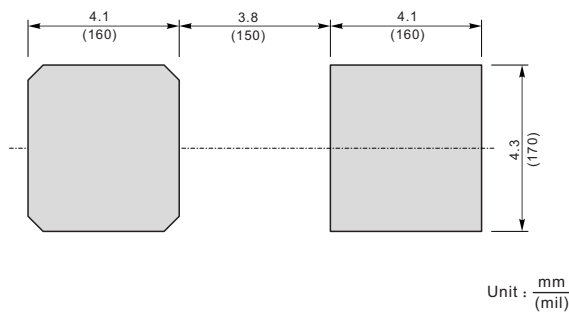
**Package Outline DO-214AB SMC**

Plastic surface mounted package; 2 leads



UNIT		A	E	D	E <sub>1</sub>	A <sub>1</sub>	C	L	b
mm	max	2.62	7.0	6.2	8.0	0.21	0.31	1.6	3.25
	min	2.00	6.5	5.6	7.6	0.05	0.15	0.9	2.75
mil	max	103	276	244	315	8.3	12	63	128
	min	79	256	220	299	2.0	5.9	35	108

**The recommended mounting pad size**



**Summary of Packing Options**

Package	Packing Description	Packing Quantity	Industry Standard
DO-214AB SMC	Tape/Reel, 13" reel	3000	EIA-481-1

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