

# US5A THRU US5M

## US5A THRU US5M 5.0Amp Ultra Fast Surface Mount Rectifiers

### General description

5.0Amp Ultra Fast Surface Mount Rectifiers

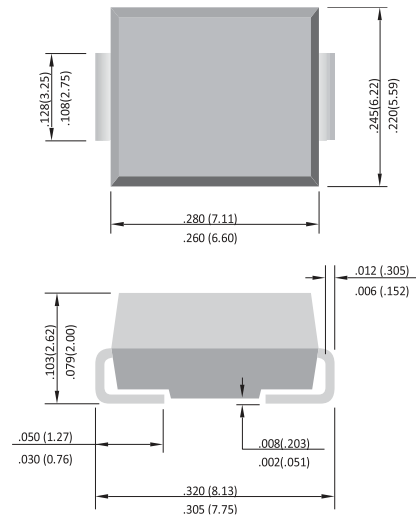
### FEATURES

- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Superfast reverse recovery time
- Lead free in comply with EU RoHS 2011/65/EU directives

### MECHANICAL DATA

- Case: SMC
- Terminals: Solderable per MIL-STD-750, Method 2026
- Weight: 0.22g / 0.0077oz

### SMC/DO-214AB



Unit: inch (mm)

### Absolute Maximum Ratings ( $T_a=25^\circ\text{C}$ unless otherwise specified)

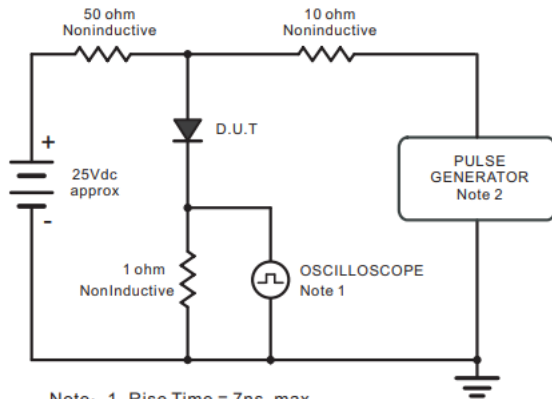
Parameter	Symbols	US5A	US5B	US5D	US5G	US5J	US5K	US5M	Units
Marking Code	Mark	US5A	US5B	US5D	US5G	US5J	US5K	US5M	N/A
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	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 1 A	$V_F$	1.0		1.3		1.65			V
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_a = 25^\circ\text{C}$ $T_a = 100^\circ\text{C}$	$I_R$	5 500							$\mu\text{A}$
Maximum Reverse Recovery Time(Note 1) $T_J=25^\circ\text{C}$	$T_{rr}$	50				75			nS
Typical Junction Capacitance (Note 2)	$C_j$	50							pF
Maximum Thermal Resistance(Note 3) $R_{\theta JA}$	$R_{\theta JA}$	35							$^\circ\text{C/W}$
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 ~ +150							$^\circ\text{C}$

NOTES: 1. Reverse Recovery Test Conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{rr}=0.25A$   
2. Measured at 1 MHz and applied  $V_r = 4.0$  volts.

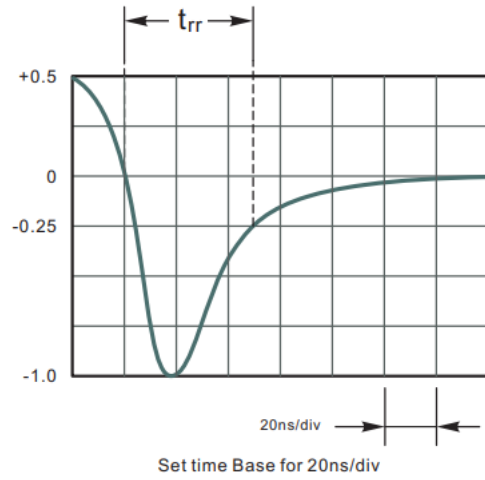
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## Ratings And Characteristic Curves

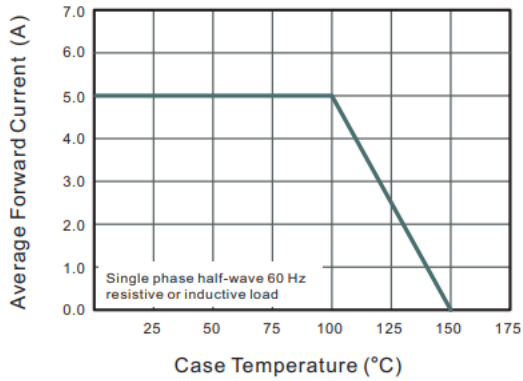
**Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram**



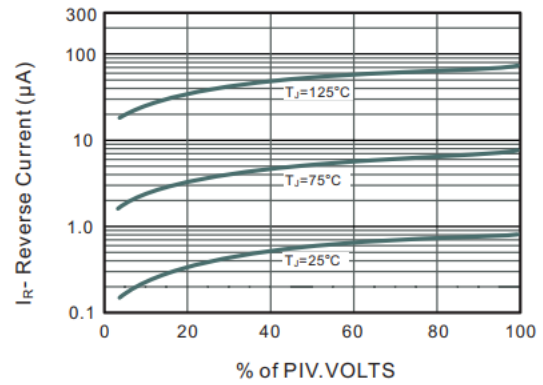
Note: 1. Rise Time = 7ns, max.  
 Input Impedance = 1megohm, 22pF.  
 2. Rise Time = 10ns, max.  
 Source Impedance = 50 ohms.



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

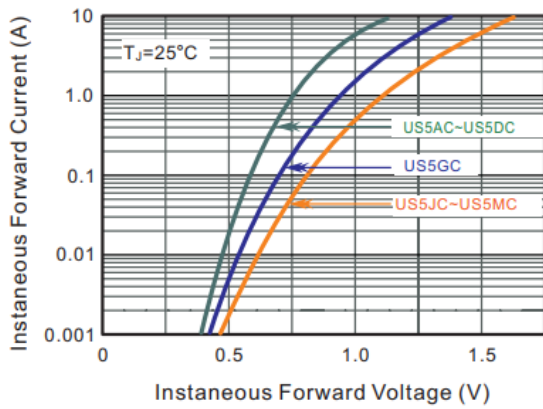


**Fig.3 Typical Reverse Characteristics**

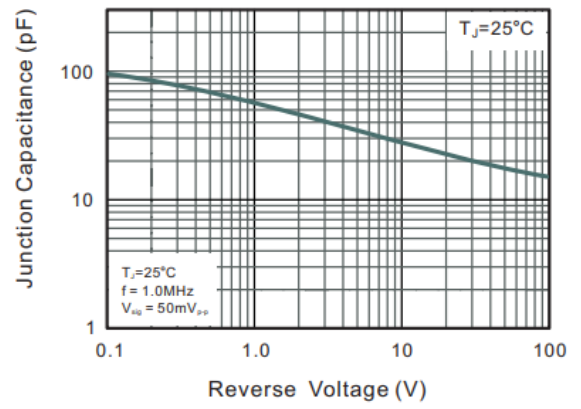


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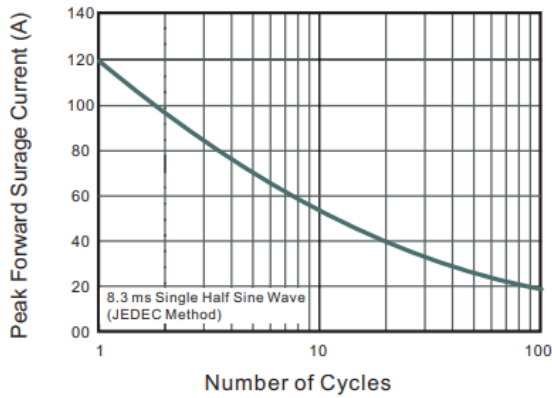
**Fig.4 Typical Forward Characteristics**



**Fig.5 Typical Junction Capacitance**



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



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