

# 1N5807US - 1N5811US

**PRV : 50 - 150 Volts**  
**I<sub>o</sub> : 6.0 Amperes**

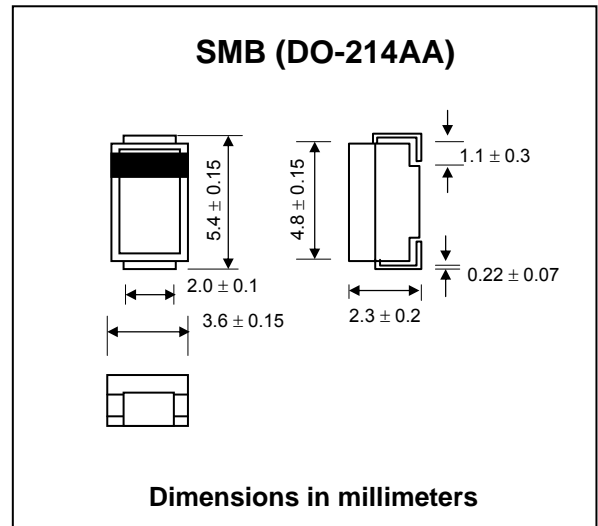
## FEATURES :

- \* High current capability
- \* High surge current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* Ultrafast recovery time
- \* Pb / RoHS Free

## MECHANICAL DATA :

- \* Case : SMB Molded plastic
- \* Epoxy : UL94V-O rate flame retardant
- \* Lead : Lead Formed for Surface Mount
- \* Polarity : Color band denotes cathode end
- \* Mounting position : Any
- \* Weight : 0.1079 gram

## ULTRAFAST RECOVERY RECTIFIER DIODES



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified.

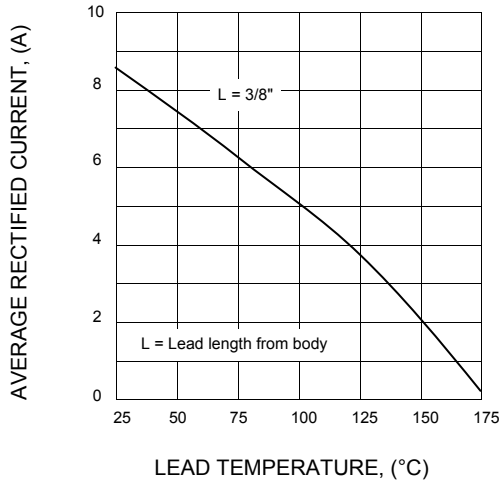
RATING	SYMBOL	1N5807US	1N5809US	1N5811US	UNIT
Maximum Working Peak Reverse Voltage	$V_{RWM}$	50	100	150	V
Minimum Breakdown Voltage @ 100 $\mu$ A	$V_{BR(Min)}$	60	110	160	V
Maximum Average Forward Current	$I_{F(AV)}$	6.0 <sup>(1)</sup>			A
		3.0 <sup>(2)</sup>			
Maximum Forward Surge Current <sup>(3)</sup>	$I_{FSM}$		125		A
Maximum Peak Forward Voltage at $I_F = 4.0$ A.	$V_F$		0.875		V
Maximum Reverse Current at $V_{RWM}$		$T_a = 25$ °C	$I_R$	5.0	$\mu$ A
		$T_a = 100$ °C	$I_{R(H)}$	150	
Maximum Reverse Recovery Time <sup>(4)</sup>	$T_{rr}$		30		ns
Thermal Resistance, Junction to Lead	$R_{\theta JL}$		22		°C/W
Junction Temperature Range	$T_J$		- 65 to + 175		°C
Storage Temperature Range	$T_{STG}$		- 65 to + 175		°C

### Notes :

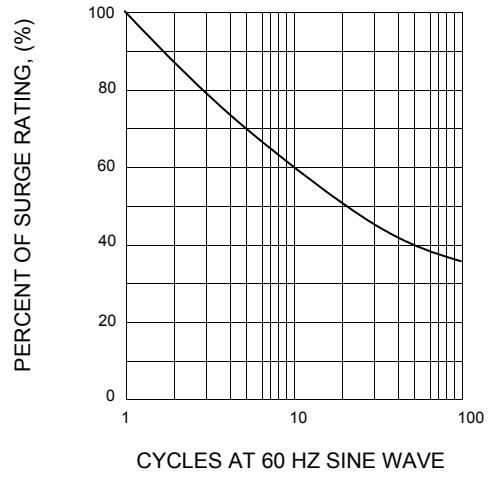
- (1) Rated at  $T_L = 75$  °C at 3/8 inc lead length. Derate at 60 mA/°C for  $T_L$  above 75 °C.
- (2) Derate linearly at 25 mA/°C above  $T_a = 55$  °C. This rating is typical for PC boards where thermal resistance from mounting point to ambient is sufficiently controlled where  $T_{J(max)}$  does not exceed 175 °C.
- (3)  $T_a = 25$  °C @  $I_{F(AV)} = 3$  A and  $V_{RWM}$  for ten 8.3 ms surges at 1 minute intervals.
- (4)  $I_F = 1$  A,  $I_{RM} = 1$  A,  $I_{R(REC)} = 0.1$  A and  $di/dt = 10$  A/ $\mu$ s min.

**RATING AND CHARACTERISTIC CURVES ( 1N5807US - 1N5811US )**

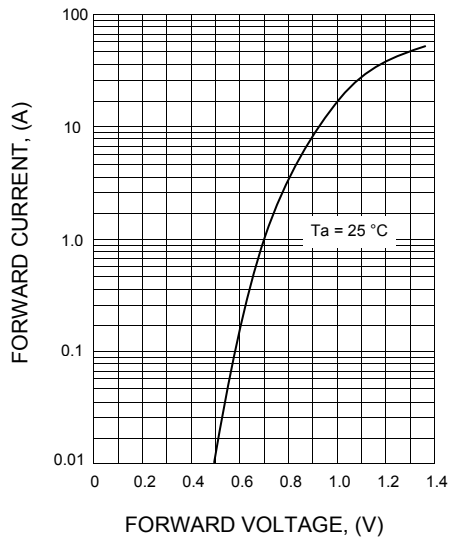
**FIG. 1 - OUTPUT CURRENT VS. LEAD TEMPERATURE**



**FIG.2 - MULTIPLE SURGE CURRENT VS. DURATION**



**FIG.3 - TYPICAL FORWARD CHARACTERISTICS**



**FIG.4 - TYPICAL REVERSE CHARACTERISTICS**

