

1N5807US - 1N5811US

PRV : 50 - 150 Volts

I_o : 6.0 Amperes

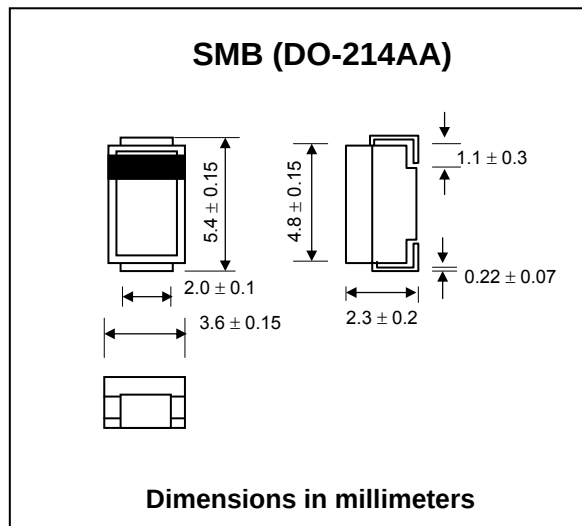
FEATURES :

- * 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 @ 100μA	V _{BR(Min)}	60	110	160	V
Maximum Average Forward Current	I _{F(AV)}	6.0 ⁽¹⁾			A
		3.0 ⁽²⁾			
Maximum Forward Surge Current ⁽³⁾	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} Ta = 25 °C Ta = 100 °C	I _R	5.0			μA
	I _{R(H)}	150			
Maximum Reverse Recovery Time ⁽⁴⁾	T _{rr}	30			ns
Thermal Resistance, Junction to Lead	R _{ΘJL}	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 $T_L = 75\text{ }^{\circ}\text{C}$ at 3/8 inc lead length. Derate at 60 mA/ $^{\circ}\text{C}$ for T_L above 75 $^{\circ}\text{C}$.
- (2) Derate linearly at 25 mA/ $^{\circ}\text{C}$ above $T_a = 55\text{ }^{\circ}\text{C}$. 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 $^{\circ}\text{C}$.
- (3) $T_a = 25\text{ }^{\circ}\text{C}$ @ $I_{F(AV)} = 3\text{ A}$ and V_{RWM} for ten 8.3 ms surges at 1 minute intervals.
- (4) $I_F = 1\text{ A}$, $I_{RM} = 1\text{ A}$, $I_{R(REC)} = 0.1\text{ A}$ and $di/dt = 10\text{ A}/\mu\text{s min}$.

RATING AND CHARACTERISTIC CURVES (1N5807US - 1N5811US)

FIG. 1 - OUTPUT CURRENT VS. LEAD TEMPERATURE

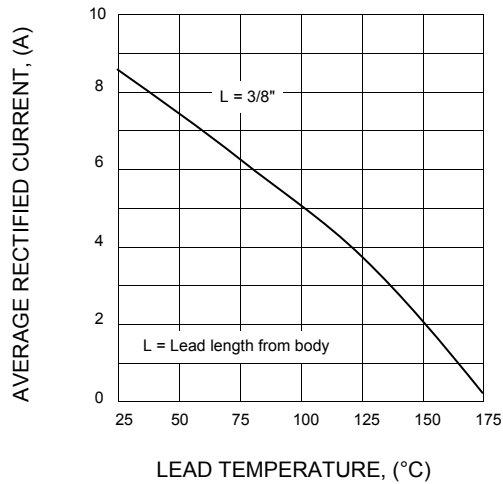


FIG.2 - MULTIPLE SURGE CURRENT VS. DURATION

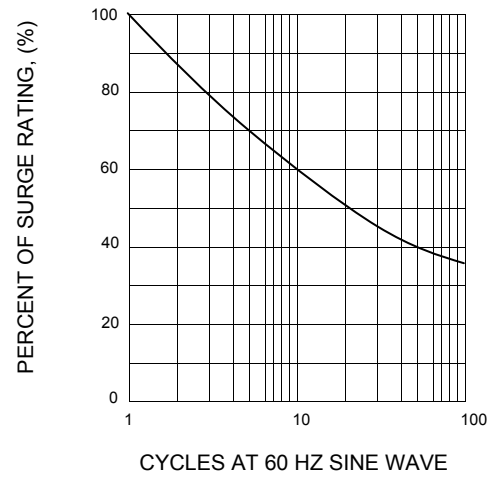


FIG.3 - TYPICAL FORWARD CHARACTERISTICS

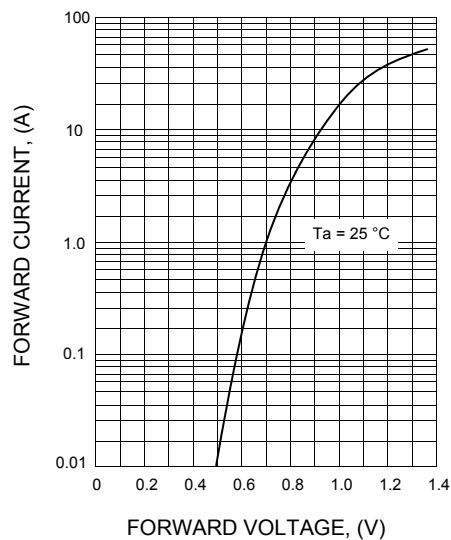


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

