

1N5807US - 1N5811US

ULTRAFAST RECOVERY RECTIFIER DIODES

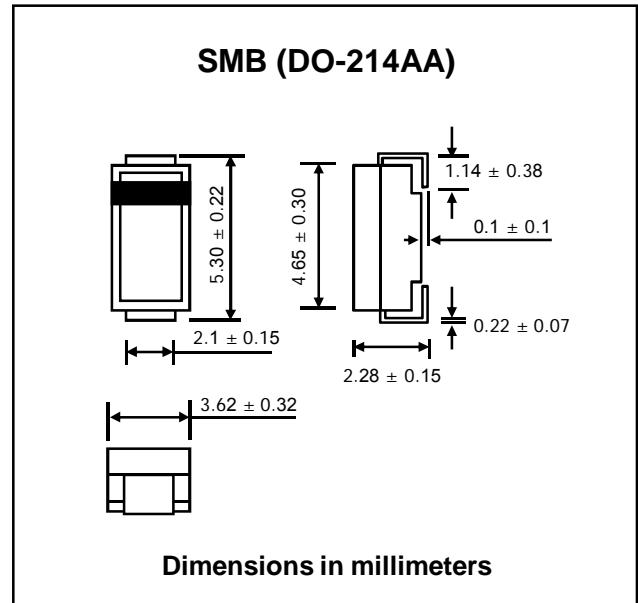
PRV : 50 - 150 Volts
Io : 6.0 Amperes

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-0 rate flame retardant
- * Lead : Lead Formed for Surface Mount
- * Polarity : Color band denotes cathode end
- * Mounting position : Any
- * Weight : 0.1079 gram



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 μ A	$V_{BR(Min)}$	60	110	160	V
Maximum Average Forward Current	$I_{F(AV)}$	6.0 ⁽¹⁾ 3.0 ⁽²⁾			A
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}	I_R	5.0			μ A
	$I_{R(H)}$	150			
Maximum Reverse Recovery Time ⁽⁴⁾	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. 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/ μ s min.

RATING AND CHARACTERISTIC CURVES (1N5807US - 1N5811US)

FIG. 1 - OUTPUT CURRENT VS. LEAD TEMPERATURE

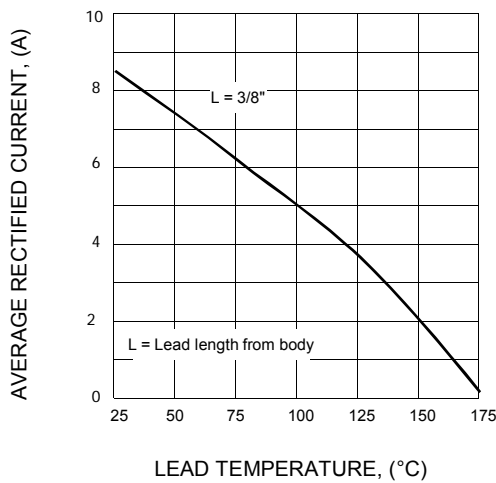


FIG.2 - MULTIPLE SURGE CURRENT VS. DURATION

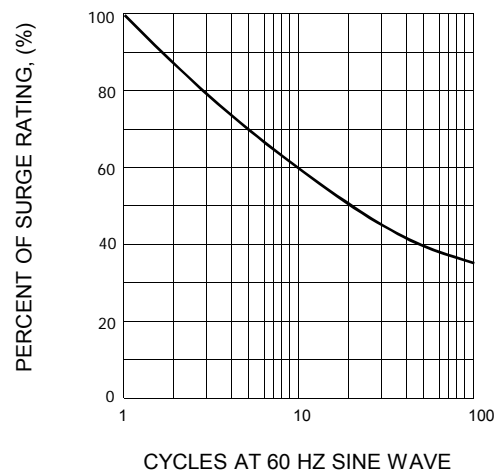


FIG.3 - TYPICAL FORWARD CHARACTERISTICS

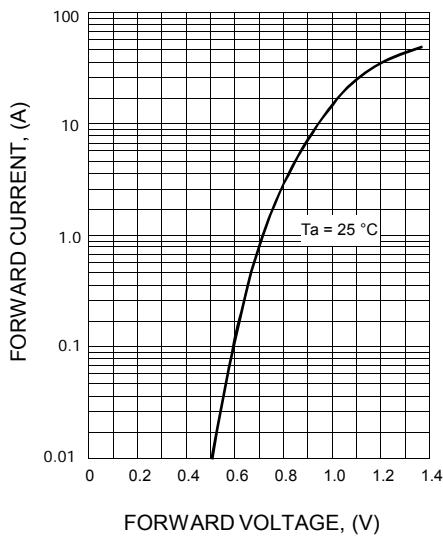


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

