

HIGH-RELIABILITY PRODUCTS

Features

- Very low reverse recovery time
- Hermetically sealed in lead borosilicate glass sleeve
- Low switching losses
- Soft, non-snap off, recovery characteristics
- Very low forward voltage drop

Quick reference data

$V_R = 50 - 150V$
 $I_F = 6.0A$
 $t_{rr} = 30ns$
 $I_R = 5.0\mu A$

Absolute Maximum Rating

Electrical specifications @ $T_A = 25^\circ C$ unless otherwise specified.

Parameter	Symbol	1N5807	1N5809	1N5811	Units
Working reverse voltage	V_{RWM}	50	100	150	V
Repetitive reverse voltage	V_{RRM}	50	100	150	V
Average forward current (@ $75^\circ C$, lead length = 0.375")	$I_{F(AV)}$	6.0			A
Repetitive surge current (@ $55^\circ C$ in free air, lead length = 0.375")	I_{FRM}	25			A
Non-repetitive surge current ($t_p = 8.3ms$, @ V_R & T_{jmax})	I_{FSM}	125			A
Storage temperature range	T_{STG}	-65 to +175			$^\circ C$
Operating temperature range	T_{OP}	-65 to +175			$^\circ C$

Electrical Characteristics (T=25°C unless otherwise specified)

Parameter	Symbol	1N5807	1N5809	1N5811	Units
Average forward current max. (pcb mounted; $T_A = 55^\circ\text{C}$) for sine wave for square wave (d = 0.5)	$I_{F(AV)}$ $I_{F(AV)}$		1.7 1.8		A A
Average forward current max. ($T_L = 55^\circ\text{C}$; L = 3/8") for sine wave for square wave (d = 0.5)	$I_{F(AV)}$ $I_{F(AV)}$		5.7 6.0		A A
I^2t for fusing (t = 8.3ms) max.	I^2t		32		A ² s
Forward voltage drop max. @ $I_F = 4.0\text{A}$, $T_J = 25^\circ\text{C}$	V_F		0.875		V
Reverse current max. @ V_{RWM} , $T_J = 25^\circ\text{C}$ @ V_{RWM} , $T_J = 100^\circ\text{C}$	I_R I_R		5.0 150		μA μA
Reverse recovery time max. 1.0A I_F to 1.0 I_R . Recovers to 0.1A I_{RR} .	t_{rr}		30		ns
Junction capacitance typ. @ $V_R = 5\text{V}$, f = 1MHz	C_j		60		pF

Thermal Characteristics

Parameter	Symbol	1N5807	1N5809	1N5811	Units
Thermal resistance - junction to lead Lead length = 0.375"	$R_{\theta JL}$		22		$^\circ\text{C/W}$
Thermal resistance - junction to ambient On 0.06" thick pcb. 1oz. copper	$R_{\theta JA}$		90		$^\circ\text{C/W}$

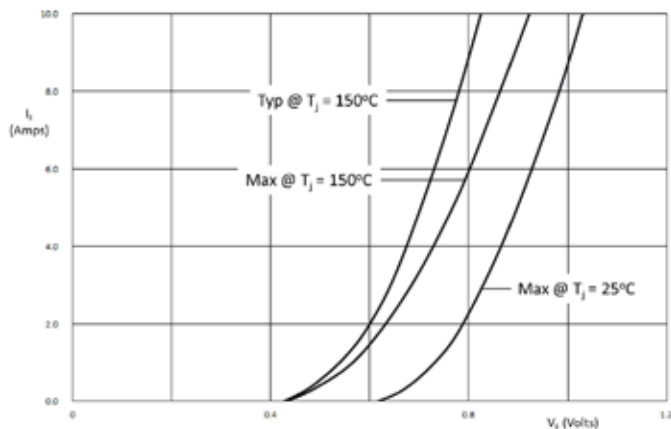


Figure 1. Forward voltage drop as a function of forward current.

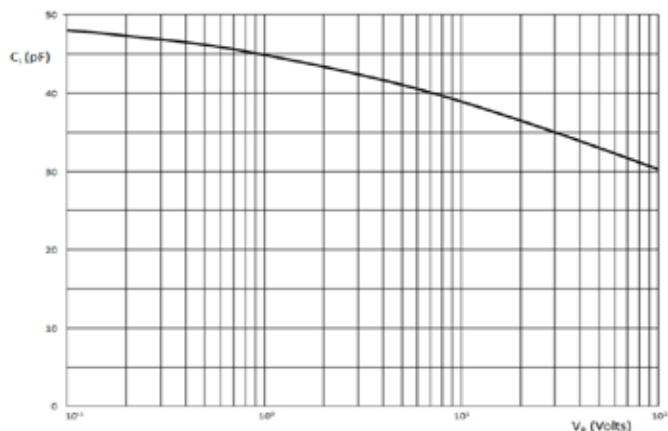
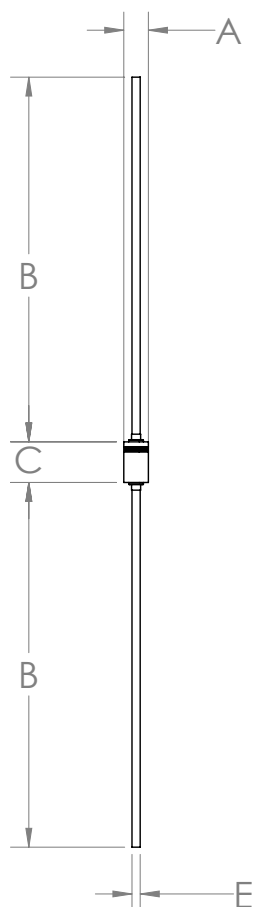


Figure 2. Typical junction capacitance as a function of reverse voltage.

Outline Drawing



Dimensions				
DIM	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.115	0.142	2.92	3.61
B	0.900	1.30	22.86	33.02
C	0.130	0.300	3.30	7.62
E	0.036	0.042	0.91	1.07

These products are qualified to MIL-PRF-19500/477 and are preferred parts as listed in Qualified Products Database (QPD). They can be supplied fully released as JANTX, JANTXV and JANS.