

AXIAL LEADED HERMETICALLY SEALED SUPERFAST RECTIFIER DIODE

QUICK REFERENCE DATA

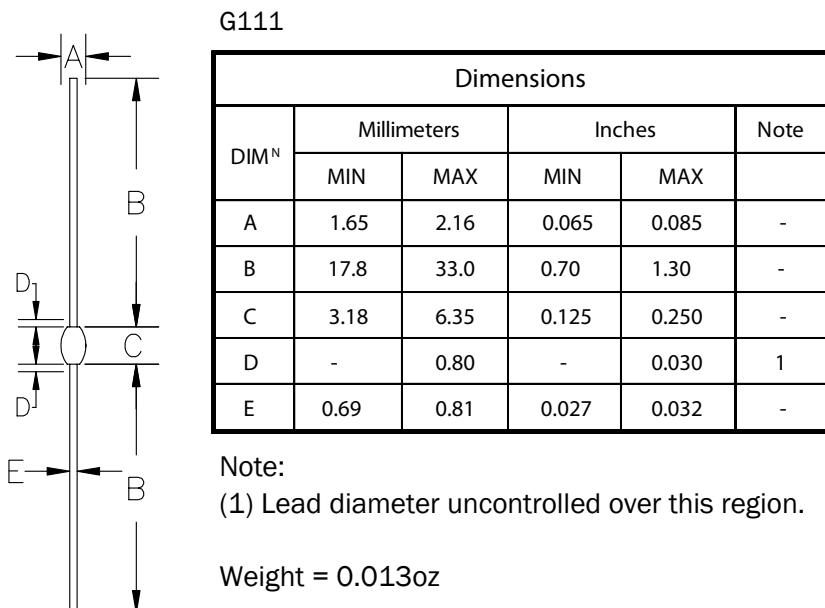
- Very low reverse recovery time
- Hermetical sealed in Metoxilite fused metal oxide
- Low switching losses
- Soft, non-snap off, recovery characteristics
- Very low forward voltage drop

- $V_R = 50 - 150V$
- $I_F = 2.5A$
- $t_{rr} = 25ns$
- $I_R = 1\mu A$

ABSOLUTE MAXIMUM RATINGS (@ 25°C unless otherwise specified)

	Symbol	1N5802	1N5804	1N5806	Unit
Working reverse voltage	V_{RWM}	50	100	150	V
Repetitive reverse voltage	V_{RRM}	50	100	150	V
Average forward current (@ 75°C, lead length = 0.375")	$I_{F(AV)}$	← 2.5 →			A
Repetitive surge current (@ 55°C in free air, lead length 0.375")	I_{FRM}	← 14 →			A
Non-repetitive surge current ($t_p = 8.3ms$, @ V_R & T_{jmax})	I_{FSM}	← 35 →			A
Storage temperature range	T_{STG}	← -65 to +200 →			°C
Operating temperature range	T_{OP}	← -65 to +175 →			°C

MECHANICAL



These products are qualified to MIL-PRF-19500/477 and are preferred parts as listed in MIL-STD-701. They can be supplied fully released as JANTX, JANTXV and JANS versions.

ELECTRICAL CHARACTERISTICS (@ 25°C unless otherwise specified)

	Symbol	1N5802	1N5804	1N5806	Unit
Average forward current max. (pcb mounted; $T_A = 55^\circ\text{C}$) for sine wave for square wave ($d = 0.5$)	$I_{F(AV)}$ $I_{F(AV)}$	$\longleftrightarrow$	1.3 1.4	$\longrightarrow$	A A
Average forward current max. ($T_L = 55^\circ\text{C}$; $L = 3/8"$) for sine wave for square wave	$I_{F(AV)}$ $I_{F(AV)}$	$\longleftrightarrow$	3.1 3.3	$\longrightarrow$	A A
I^2t for fusing ($t = 8.3\text{ms}$) max.	I^2t	$\longleftrightarrow$	10.0	$\longrightarrow$	A^2S
Forward voltage drop max. @ $I_F = 1.0\text{A}$, $T_j = 25^\circ\text{C}$	V_F	$\longleftrightarrow$	0.875	$\longrightarrow$	V
Reverse current max. @ V_{RWM} , $T_j = 25^\circ\text{C}$ @ V_{RWM} , $T_j = 100^\circ\text{C}$	I_R I_R	$\longleftrightarrow$	1.0 50	$\longrightarrow$	μA μA
Reverse recovery time max. 1.0A I_F to 1.0A I_R . Recovers to 0.1A I_{RR} .	t_{rr}	$\longleftrightarrow$	25	$\longrightarrow$	ns
Junction capacitance typ. @ $V_R = 5\text{V}$, $f = 1\text{MHz}$	C_j	$\longleftrightarrow$	25	$\longrightarrow$	pF

THERMAL CHARACTERISTICS

	Symbol	1N5802	1N5804	1N5806	Unit
Thermal resistance - junction to lead Lead length = 0.75"	$R_{\theta JL}$	$\longleftrightarrow$	36	$\longrightarrow$	$^\circ\text{C/W}$
Thermal resistance - junction to amb. on 0.06" thick pcb. 1 oz. copper.	$R_{\theta JA}$	$\longleftrightarrow$	100	$\longrightarrow$	$^\circ\text{C/W}$

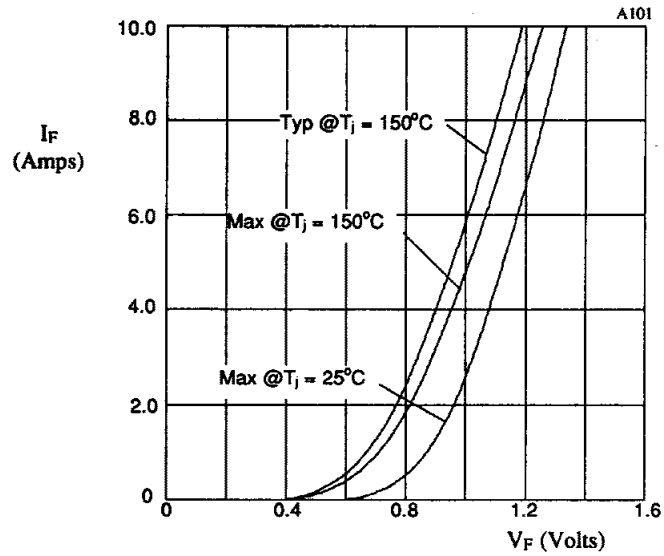


Fig 1. Forward voltage drop as a function of forward current.

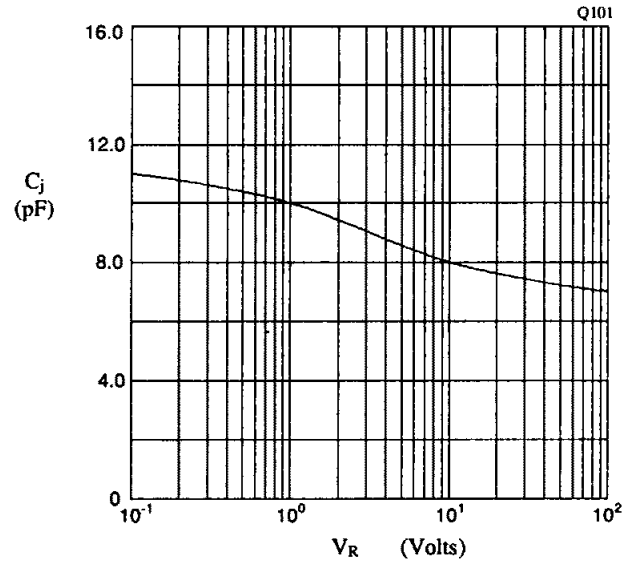


Fig 2. Typical junction capacitance as a function of reverse voltage.