

January 7, 1998

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## AXIAL LEADED HERMETICALLY SEALED SUPERFAST RECTIFIER DIODE

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

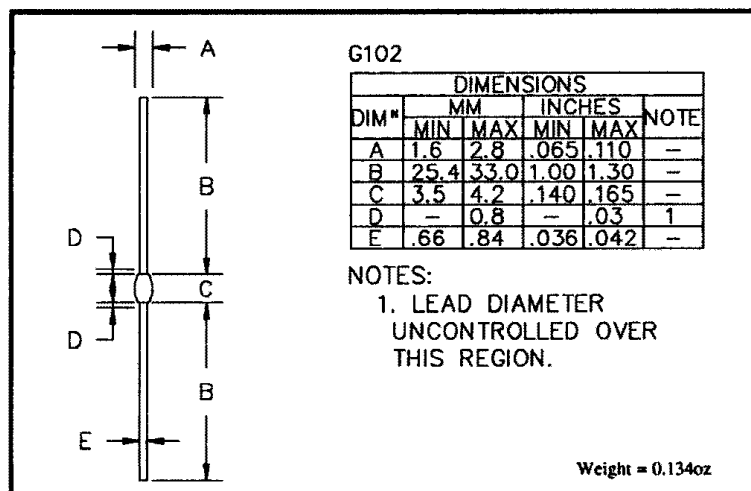
## QUICK REFERENCE DATA

- $V_R = 50 - 150V$
- $I_F = 3.1A$
- $t_{rr} = 30nS$
- $V_F = 1.2V$

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

	Symbol	1N6076 3FF05	1N6077 3FF10	1N6078 3FF15	Unit
Working reverse voltage	$V_{RWM}$	50	100	150	V
Repetitive reverse voltage	$V_{RRM}$	50	100	150	V
Average forward current (@ 55°C, lead length = 0.375")	$I_{F(AV)}$	←	3.1	→	A
Repetitive surge current (@ 55°C in free air, lead length 0.375")	$I_{FRM}$	←	14.0	→	A
Non-repetitive surge current ( $t_p = 8.3mS$ , @ $V_R$ & $T_{jmax}$ )	$I_{FSM}$	←	70.0	→	A
Storage temperature range	$T_{STG}$	←	-65 to +150	→	°C
Operating temperature range	$T_{OP}$	←	-65 to +150	→	°C

### MECHANICAL



These products are qualified to MIL-S-19500/503. They can be supplied fully released as JAN, JANTX, and JANTXV versions.

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## ELECTRICAL CHARACTERISTICS (@ 25°C unless otherwise specified)

	Symbol	1N6076 3FF05	1N6077 3FF10	1N6078 3FF15	Unit
Average forward current max. (pcb mounted; $T_A = 55^\circ\text{C}$ ) for sine wave for square wave ( $d = 0.5$ )	$I_{F(AV)}$	← 1.30 →			A
	$I_{F(AV)}$	← 1.40 →			A
Average forward current max. $T_L = 70^\circ\text{C}; L = 0''$ $T_L = 55^\circ\text{C}; L = 3/8''$ for sine wave for square wave	$I_{F(AV)}$	← 6.0 →			A
	$I_{F(AV)}$	← 3.0 →			A
	$I_{F(AV)}$	← 3.1 →			A
	$I^2t$	← 5.1 →			A <sup>2</sup> S
Forward voltage drop max. @ $I_F = 3.0\text{A}, T_j = 25^\circ\text{C}$	$V_F$	← 1.2 →			V
Reverse current max. @ $V_{RWM}, T_j = 25^\circ\text{C}$ @ $V_{RWM}, T_j = 100^\circ\text{C}$	$I_R$	← 5.0 →			$\mu\text{A}$
	$I_R$	← 100 →			$\mu\text{A}$
Reverse recovery time 0.5A $I_F$ to 1.0A $I_R$ . Recovers to 0.25A $I_{RR}$ .	$t_{rr}$	← 30 →			nS
Junction capacitance typ. @ $V_R = 5\text{V}, f = 1\text{MHz}$	$C_j$	← 60 →			$\rho\text{F}$

## THERMAL CHARACTERISTICS

	Symbol	1N6076 3FF05	1N6077 3FF10	1N6078 3FF15	Unit
Thermal resistance - junction to lead Lead length = 0.0" Lead length = 0.375"	$R_{\theta JL}$	← 8.5 →			$^\circ\text{C/W}$
	$R_{\theta JL}$	← 25 →			$^\circ\text{C/W}$
Thermal resistance - junction to amb. on 0.06" thick pcb. 1 oz. copper.	$R_{\theta JA}$	← 90 →			$^\circ\text{C/W}$