

January 7, 1998

TEL:805-498-2111 FAX:805-498-3804 WEB:<http://www.semtech.com>
**AXIAL LEADED HERMETICALLY SEALED
SUPERFAST RECTIFIER DIODE**

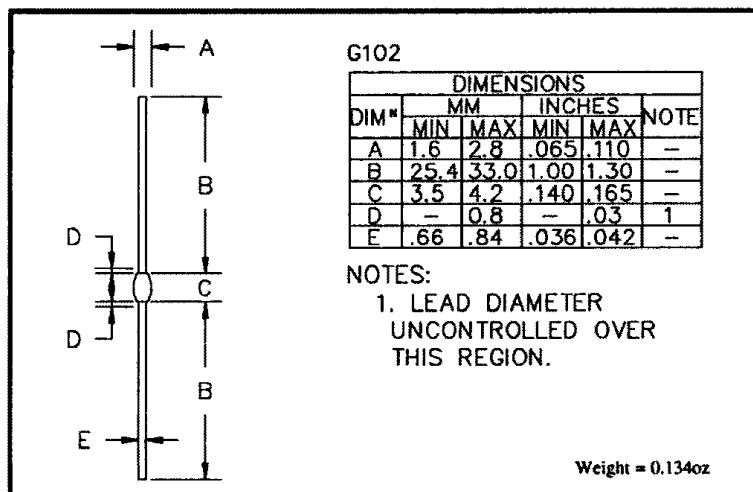
- Very low reverse recovery time
- Hermetically sealed in Metoxilite fused metal oxide
- Low switching losses
- Low forward voltage drop
- Soft, non-snap off, recovery characteristics

**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; TA = 55°C) for sine wave for square wave (d = 0.5)	IF(AV)	1.30			A
	IF(AV)	1.40			A
Average forward current max. TL = 70°C; L = 0". TL = 55°C; L = 3/8" for sine wave for square wave	IF(AV)	6.0			A
	IF(AV)	3.0			A
	IF(AV)	3.1			A
I ² t for fusing (t = 8.3mS) max.	I ² t	5.1			A ² S
Forward voltage drop max. @ IF = 3.0A, T _j = 25°C	V _F	1.2			V
Reverse current max. @ VRWM, T _j = 25°C @ VRWM, T _j = 100°C	I _R	5.0			µA
	I _R	100			µA
Reverse recovery time 0.5A IF to 1.0A I _R . Recovers to 0.25A I _{RR} .	t _{rr}	30			nS
Junction capacitance typ. @ VR = 5V, f = 1MHz	C _j	60			pF

THERMAL CHARACTERISTICS

	Symbol	1N6076 3FF05	1N6077 3FF10	1N6078 3FF15	Unit
Thermal resistance - junction to lead Lead length = 0.0" Lead length = 0.375"	R _{θJL}	8.5			°C/W
	R _{θJL}	25			°C/W
Thermal resistance - junction to amb. on 0.06" thick pcb. 1 oz. copper.	R _{θJA}	90			°C/W