

**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

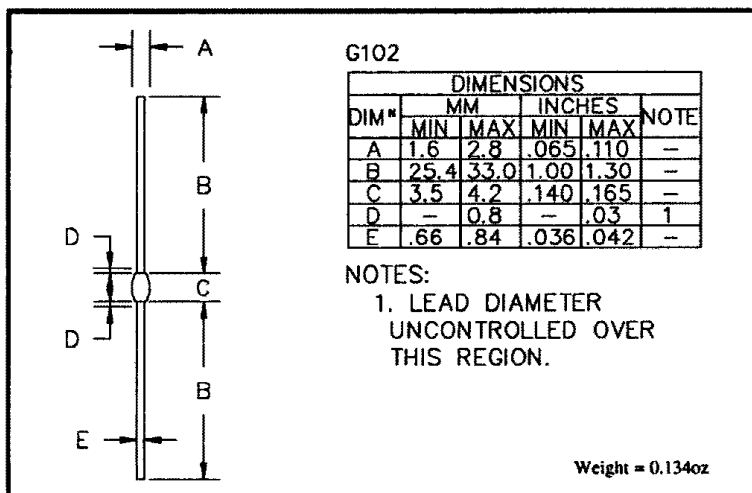
**QUICK REFERENCE  
DATA**

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

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

|  | Symbol      | 1N6076<br>3FF05 | 1N6077<br>3FF10 | 1N6078<br>3FF15 | Unit |
|--|-------------|-----------------|-----------------|-----------------|------|
| Working reverse voltage  | $V_{RWM}$   | 50              | 100             | 150             | V    |
| Repetitive reverse voltage   | $V_{RRM}$   | 50              | 100             | 150             | V    |
| Average forward current<br>(@ 55°C, lead length = 0.375")                | $I_{F(AV)}$ | ←               | 3.1             | →               | A    |
| Repetitive surge current<br>(@ 55°C in free air, lead length 0.375")     | $I_{FRM}$   | ←               | 14.0            | →               | A    |
| Non-repetitive surge current<br>( $t_p = 8.3ms$ , @ $V_R$ & $T_{jmax}$ ) | $I_{FSM}$   | ←               | 75.0            | →               | 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-PRF-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<br>3FF05   | 1N6077<br>3FF10 | 1N6078<br>3FF15 | Unit             |
|--|--------------------|-------------------|-----------------|-----------------|------------------|
| Average forward current max.<br>(pcb mounted; T <sub>A</sub> = 55°C)<br>for sine wave<br>for square wave (d = 0.5) | I <sub>F(AV)</sub> | ←———— 1.30 —————→ |                 |                 | A                |
|  | I <sub>F(AV)</sub> | ←———— 1.40 —————→ |                 |                 | A                |
| Average forward current max.<br>T <sub>L</sub> = 70°C; L = 0".<br>T <sub>L</sub> = 55°C; L = 3/8"                  | I <sub>F(AV)</sub> | ←———— 6.0 —————→  |                 |                 | A                |
|  | I <sub>F(AV)</sub> | ←———— 3.0 —————→  |                 |                 | A                |
| for sine wave<br>for square wave   | I <sub>F(AV)</sub> | ←———— 3.1 —————→  |                 |                 | A                |
|  | I <sup>2</sup> t   | ←———— 5.1 —————→  |                 |                 | A <sup>2</sup> S |
| I <sup>2</sup> t for fusing (t = 8.3mS) max.   |                    |                   |                 |                 |                  |
| Forward voltage drop max.<br>@ I <sub>F</sub> = 3.0A, T <sub>j</sub> = 25°C  | V <sub>F</sub>     | ←———— 1.2 —————→  |                 |                 | V                |
| Reverse current max.<br>@ V <sub>RWM</sub> , T <sub>j</sub> = 25°C<br>@ V <sub>RWM</sub> , T <sub>j</sub> = 100°C  | I <sub>R</sub>     | ←———— 5.0 —————→  |                 |                 | μA               |
|  | I <sub>R</sub>     | ←———— 100 —————→  |                 |                 | μA               |
| Reverse recovery time<br>0.5A I <sub>F</sub> to 1.0A I <sub>R</sub> . Recovers to 0.25A I <sub>RR</sub> .          | t <sub>rr</sub>    | ←———— 30 —————→   |                 |                 | nS               |
| Junction capacitance typ.<br>@ V <sub>R</sub> = 5V, f = 1MHz   | C <sub>j</sub>     | ←———— 58 —————→   |                 |                 | ρF               |

**THERMAL CHARACTERISTICS**

|   | Symbol           | 1N6076<br>3FF05  | 1N6077<br>3FF10 | 1N6078<br>3FF15 | Unit |
|---|------------------|------------------|-----------------|-----------------|------|
| Thermal resistance - junction to lead<br>Lead length = 0.0"<br>Lead length = 0.375" | R <sub>θJL</sub> | ←———— 8.5 —————→ |                 |                 | °C/W |
|   | R <sub>θJL</sub> | ←———— 25 —————→  |                 |                 | °C/W |
| Thermal resistance - junction to amb.<br>on 0.06" thick pcb. 1 oz. copper.          | R <sub>θJA</sub> | ←———— 90 —————→  |                 |                 | °C/W |