

**AXIAL LEADED HERMETICALLY SEALED  
 SUPERFAST RECTIFIER DIODE**
**QUICK  
 REFERENCE DATA**

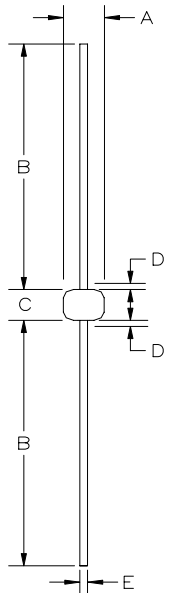
- Very low reverse recovery time
- Hermetical sealed in Metoxillite fused metal oxide
- Low switching losses
- Soft, non-snap off, recovery characteristics
- Very low forward voltage drop

- $V_R = 50 - 150V$
- $I_F = 6.0A$
- $t_{rr} = 30nS$
- $I_R = 5\mu A$

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

|  | Symbol | 1N5807                   | 1N5809 | 1N5811 | Unit |
|--|--------|--------------------------|--------|--------|------|
| Working reverse voltage  | VRWM   | 50                       | 100    | 150    | V    |
| Repetitive reverse voltage   | VRRM   | 50                       | 100    | 150    | V    |
| Average forward current<br>(@ 75°C, lead length = 0.375")            | IF(AV) | ←———— 6.0 —————→         |        |        | A    |
| Repetitive surge current<br>(@ 55°C in free air, lead length 0.375") | IFRM   | ←———— 25 —————→          |        |        | A    |
| Non-repetitive surge current<br>(tp = 8.3mS, @ VR & Tjmax )          | IFSM   | ←———— 125 —————→         |        |        | A    |
| Storage temperature range  | TSTG   | ←———— -65 to +200 —————→ |        |        | °C   |
| Operating temperature range  | TOP    | ←———— -65 to +175 —————→ |        |        | °C   |

**MECHANICAL**



G112

| Dimensions       |             |      |        |       |      |
|------------------|-------------|------|--------|-------|------|
| DIM <sup>N</sup> | Millimeters |      | Inches |       | Note |
|                  | MIN         | MAX  | MIN    | MAX   |      |
| A                | 2.92        | 3.61 | .115   | 0.142 | -    |
| B                | 22.9        | 33.0 | 0.90   | 1.30  | -    |
| C                | 3.3         | 7.62 | .130   | 0.3   | -    |
| D                | -           | 0.80 | -      | .030  | 1    |
| E                | 0.91        | 1.07 | 0.036  | .042  | -    |

Note:  
(1) Lead diameter uncontrolled over this region.

Weight = 0.013oz

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      | 1N5807    | 1N5809    | 1N5811    | Unit             |
|---|-------------|-----------|-----------|-----------|------------------|
| Average forward current max.<br>(pcb mounted; $T_A = 55^\circ\text{C}$ )<br>for sine wave                 | $I_{F(AV)}$ | ← 1.7 →   | ← 1.7 →   | ← 1.7 →   | A                |
|   | $I_{F(AV)}$ | ← 1.8 →   | ← 1.8 →   | ← 1.8 →   | A                |
| Average forward current max.<br>( $T_L = 55^\circ\text{C}$ ; $L = 3/8''$ )<br>for sine wave               | $I_{F(AV)}$ | ← 5.7 →   | ← 5.7 →   | ← 5.7 →   | A                |
|   | $I_{F(AV)}$ | ← 6.0 →   | ← 6.0 →   | ← 6.0 →   | A                |
| $I^2t$ for fusing ( $t = 8.3\text{mS}$ ) max.   | $I^2t$      | ← 32 →    | ← 32 →    | ← 32 →    | A <sup>2</sup> S |
| Forward voltage drop max.<br>@ $I_F = 4.0\text{A}$ , $T_j = 25^\circ\text{C}$                             | $V_F$       | ← 0.875 → | ← 0.875 → | ← 0.875 → | V                |
| Reverse current max.<br>@ $V_{RWM}$ , $T_j = 25^\circ\text{C}$<br>@ $V_{RWM}$ , $T_j = 100^\circ\text{C}$ | $I_R$       | ← 5.0 →   | ← 5.0 →   | ← 5.0 →   | μA               |
|   | $I_R$       | ← 150 →   | ← 150 →   | ← 150 →   | μA               |
| Reverse recovery time max.<br>1.0A $I_F$ to 1.0A $I_R$ . Recovers to 0.1A $I_{RR}$ .                      | $t_{rr}$    | ← 30 →    | ← 30 →    | ← 30 →    | nS               |
| Junction capacitance typ.<br>@ $V_R = 5\text{V}$ , $f = 1\text{MHz}$                                      | $C_j$       | ← 60 →    | ← 60 →    | ← 60 →    | pF               |

**THERMAL CHARACTERISTICS**

|  | Symbol          | 1N5807 | 1N5809 | 1N5811 | Unit |
|--|-----------------|--------|--------|--------|------|
| Thermal resistance - junction to lead<br>Lead length = 0.75"               | $R_{\theta JL}$ | ← 22 → | ← 22 → | ← 22 → | °C/W |
| Thermal resistance - junction to amb.<br>on 0.06" thick pcb. 1 oz. copper. | $R_{\theta JA}$ | ← 90 → | ← 90 → | ← 90 → | °C/W |

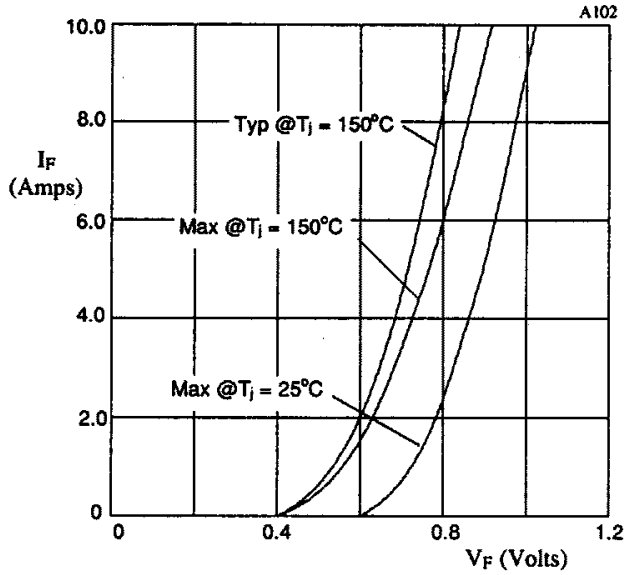


Fig 1. Forward voltage drop as a function of forward current.

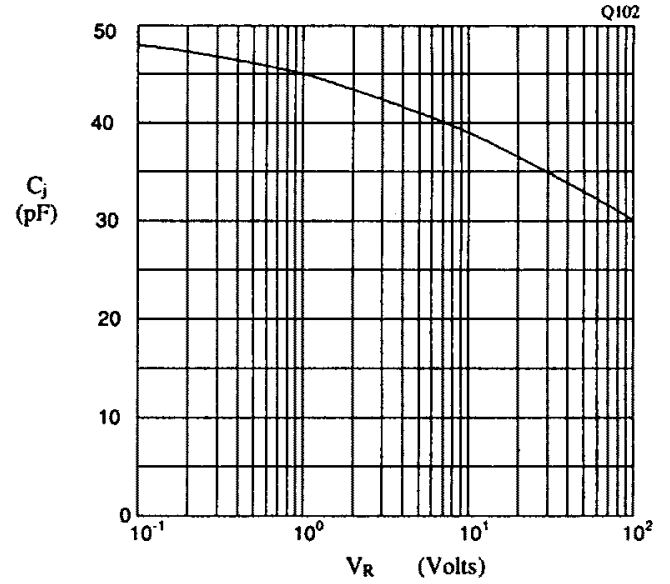


Fig 2. Typical junction capacitance as a function of reverse voltage.

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