

TECHNICAL DATA  
DATA SHEET 127, REV. H.6

AVAILABLE AS  
1N, JAN, JANTX, JANTXV  
JANS  
JAN EQUIVALENT\*  
SJ\*, SX\*, SV\*, SS\*

## Ultrafast Recovery Rectifiers

Qualified per MIL-PRF-19500/477

### DESCRIPTION:

This voidless hermetically sealed ultrafast recovery rectifier diode series is military qualified per Mil-PRF-19500/477 and is targeted for commercial and military aircraft, military vehicles, shipboard markets, space and all other high reliability applications.

### FEATURES / BENEFITS:

- ✓ Hermetic, non-cavity glass package
- ✓ Category I Metallurgically bonded
- ✓ All devices are 100% hot solder dipped
- ✓ JAN/ JANTX/JANTXV available per MIL-PRF-19500/477

### MAXIMUM RATINGS

- ✓ Operating and Storage Temperature: -65°C to +175°C
- ✓ Thermal Resistance: 22°C (junction to lead)
- ✓ Thermal Resistance: 6.5°C (junction to endcap)
- ✓ Forward surge current: 125A @ 8.3 ms half-sine

### ELECTRICAL CHARACTERISTICS

| TYPE NUMBER | WORKING PEAK REVERSE VOLTAGE | AVG RECTIFIED CURRENT <sup>1</sup> | MAXIMUM REVERSE CURRENT @ PIV |       | MAX. PEAK FORWARD VOLTAGE (PULSED) V <sub>F</sub> @ 4A | MAXIMUM SURGE CURRENT <sup>2</sup> I <sub>FSM</sub> | MAXIMUM REVERSE RECOVERY TIME <sup>3</sup> T <sub>rr</sub> |
|-------------|------------------------------|------------------------------------|-------------------------------|-------|--|---|--|
|             |                              | Amps                               | μAmps                         |       |  |   |  |
|             | Volts                        | 55°C                               | 25°C                          | 125°C | V  | Amps  | nsec   |
| 1N5807/US   | 50                           | 6.0                                | 5                             | 525   | .875   | 125   | 30   |
| 1N5809/US   | 100                          |                                    |                               |       |  |   |  |
| 1N5811/US   | 150                          |                                    |                               |       |  |   |  |

Note 1: T<sub>EC</sub> = T<sub>L</sub> at L=0 or T<sub>end tab</sub> f or US suffix devices. Derate at 60mA/°C for T<sub>L</sub> above 75°C.

Note 2: I<sub>O</sub> = 3A, 8.3ms surge

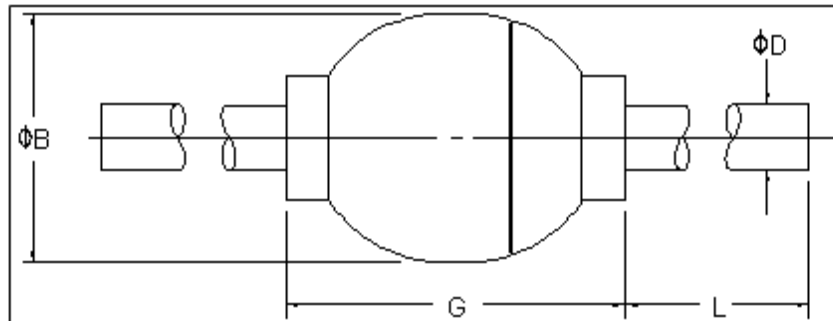
Note 3: I<sub>F</sub>=1A, I<sub>RM</sub>=1A, I<sub>R(REC)</sub> =.10A

\*Sensitron **space equivalent diodes** are manufactured and screened to MIL-PRF-19500 flow and guidelines starting from wafer fabrication through assembly and testing using our internal specification.

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**PACKAGE DIMENSIONS (inches/mm)**

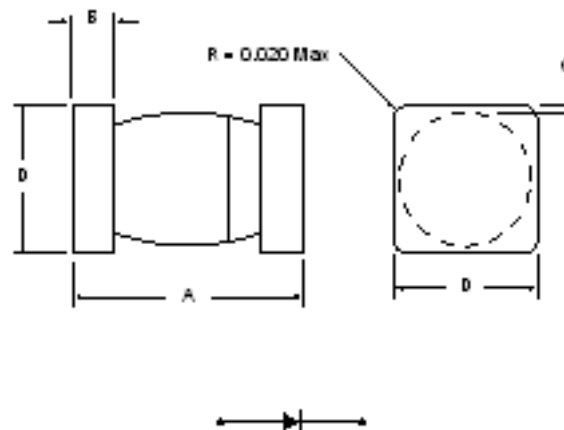
**AXIAL**



| PACKAGE STYLE | DIMENSIONS - INCHES ( MILLIMETERS) |                       |                        |                       |
|---------------|------------------------------------|-----------------------|------------------------|-----------------------|
|               | $\phi B$                           | $\phi D$              | G                      | L                     |
| 304           | .115/.142<br>2.92/3.61             | .036/.042<br>.94/1.07 | .130/.300<br>3.30/7.62 | .90/1.30<br>22.9/33.0 |

**MELF (Add "US" to Part Number)**

**MELF PACKAGE OUTLINES**

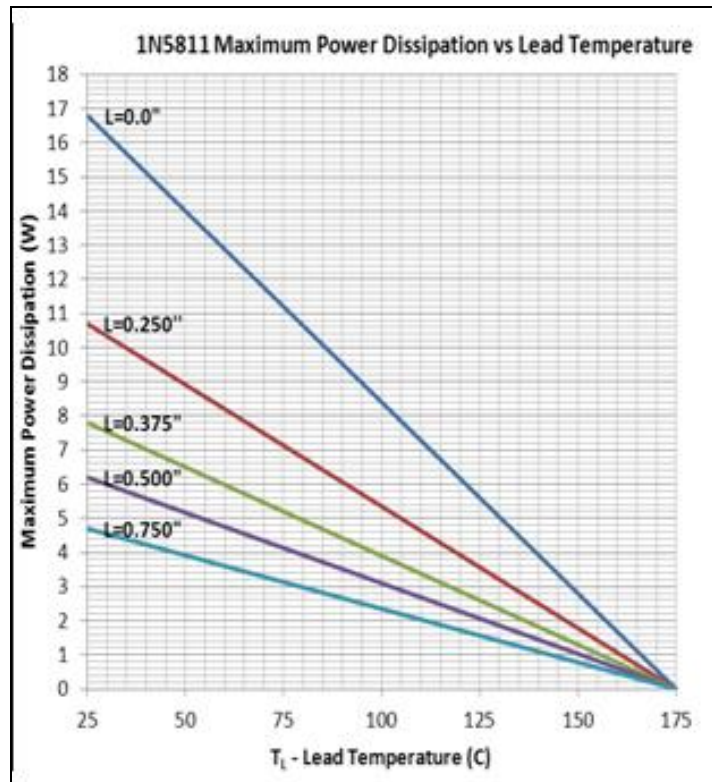
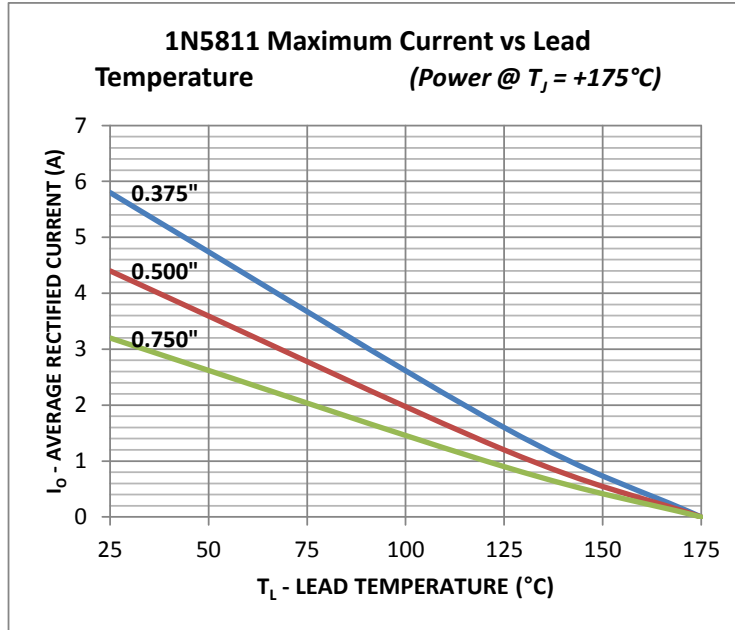


Note: Cathode side of device is indicated by a dark band marked on body.

| PACKAGE STYLE | DIMENSIONS - INCHES / MILLIMETERS |                       |                      |                      |
|---------------|-----------------------------------|-----------------------|----------------------|----------------------|
|               | A                                 | B                     | C                    | D                    |
| MELF-B        | .200/.225<br>5.0/5.8              | 0.019/.028<br>.48/.72 | .003 Min<br>.076 Min | .137/.148<br>3.4/3.8 |

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GRAPHS:



# **SENSITRON** **SEMICONDUCTOR**

1N5807/US, 1N5809/US, 1N5811/US

**ULTRAFAST RECOVERY  
RECTIFIERS**

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## **PART ORDERING INFORMATION**

The following part numbers can be purchased in either axial or surface mount devices and screened and tested to the military screening flow. The parts are marked in accordance with the testing performed, example:

*\*Available with silver leads (SS5811-AG).*

| Sensitron Screening Level | *Part Number--<br>Leaded Package<br><i>(example for 1N5811)</i> | *Part Number--<br>Surface Mount Package<br><i>(example for 1N5811US)</i> |
|---------------------------|---|--|
| <b>1N</b>                 | 1N5811  | 1N5811US   |
| <b>JAN</b>                | JAN1N5811   | JAN1N5811US  |
| <b>JANTX</b>              | JANTX1N5811   | JANTX1N5811US,   |
| <b>JANTXV</b>             | JANTXV1N5811  | JANTXV1N5811US   |
| <b>SJ</b>                 | SJ5811  | SJ5811US   |
| <b>SX</b>                 | SX5811  | SX5811US   |
| <b>SV</b>                 | SV5811  | SV5811US   |
| <b>JANS</b>               | JANS1N5811  | JANS1N5811US   |
| <b>SS</b>                 | SS5811  | SS5811US   |

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