

## 1A Fast Recovery Rectifiers

Qualified per MIL-PRF-19500/359

### DESCRIPTION:

This voidless hermetically sealed 1A fast recovery rectifier diode series is military qualified per MIL-PRF-19500/359 and is targeted for space, commercial and military aircraft, military vehicles, shipboard markets and all 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-19500/429
- ✓ "JANS Plus" removes atypical/out of family  $V_F$
- ✓ For JANS and US (MELF) version, see /429 (5615 Series).

### MAXIMUM RATINGS

- ✓ Operating and Storage Temperature: -65°C to +175°C
- ✓ Solder temperature: 260 °C for 10s (max)
- ✓ Thermal Resistance: 38 °C (junction to lead)
- ✓ Forward surge current: 15A @ 8.3 ms half-sine

### ELECTRICAL CHARACTERISTICS

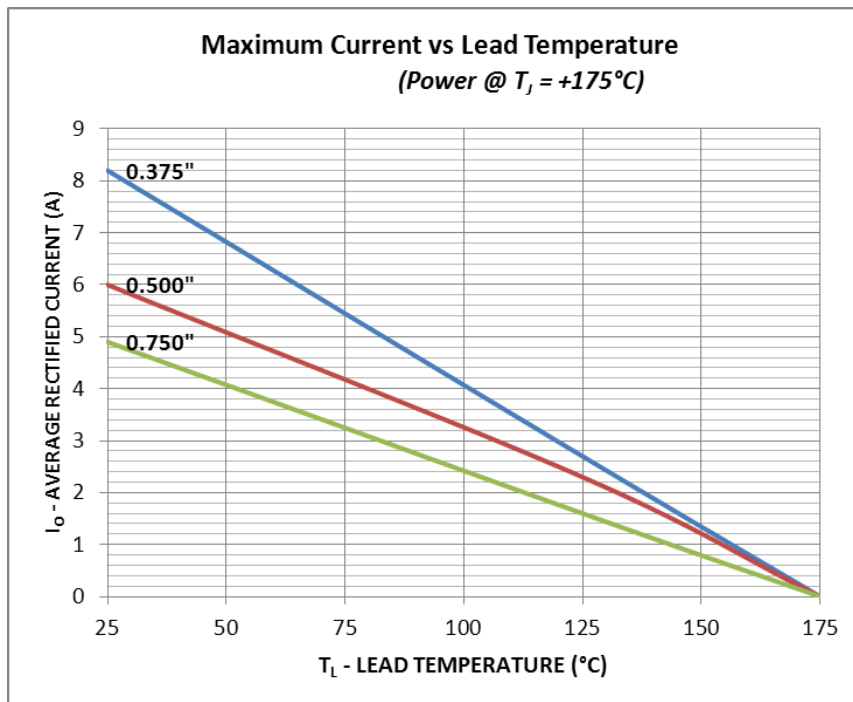
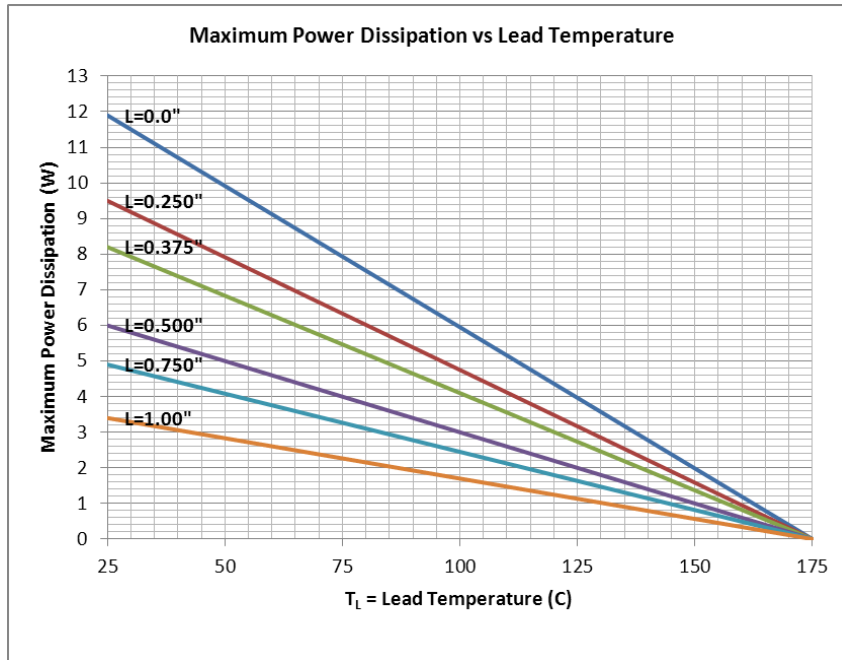
| TYPE NUMBER | PEAK INVERSE VOLTAGE | AVG. RECTIFIED CURRENT |       | MAXIMUM REVERSE CURRENT @ PIV |       | MAX. FORWARD VOLTAGE |     | MAX SURGE CURRENT <sup>1</sup> | MAXIMUM REVERSE RECOVERY TIME<br>T <sub>rr</sub><br>I <sub>F</sub> =0.5A I <sub>RM</sub> =1A<br>I <sub>R(REC)</sub> =0.25A | THERM RES<br>R <sub>θJL</sub><br>d=.375 |
|-------------|----------------------|------------------------|-------|-------------------------------|-------|----------------------|-----|--------------------------------|--|---|
|             |                      | Amps                   | Amps  | μAmps                         | μAmps | V                    | A   |                                |  |   |
|             | Volts                | 55°C                   | 100°C | 25°C                          | 150°C |                      |     | Amps                           | nsec   | °C/W                                    |
| 1N4942      | 200                  |                        |       |                               |       |                      |     |                                | 150  |   |
| 1N4944      | 400                  |                        |       |                               |       |                      |     |                                | 150  |   |
| 1N4946      | 600                  | 1.0                    | .75   | 1.0                           | 200   | 1.3                  | 1.0 | 15                             | 250  | 38                                      |
| 1N4947      | 800                  |                        |       |                               |       |                      |     |                                | 250  |   |
| 1N4948      | 1000                 |                        |       |                               |       |                      |     |                                | 500  |   |

Note 1: T<sub>A</sub>=100°C, 8.3 surge

\*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.

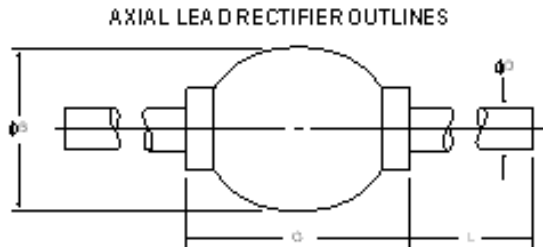
TECHNICAL DATA  
DATA SHEET 5109, REV. A

GRAPHS



**TECHNICAL DATA**  
**DATA SHEET 5109, REV. A**

**PACKAGE DIMENSIONS (inches/mm)**



**Termination Finish:** Axial leads and Endcaps are copper with Tin/Lead finish.

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

| PACKAGE STYLE | DIMENSIONS - INCHES / MILLIMETERS |                      |                        |                       |
|---------------|-----------------------------------|----------------------|------------------------|-----------------------|
|               | $\phi_B$                          | $\phi_D$             | G                      | L                     |
| 103           | .065/1.50<br>1.65/3.81            | .027/0.33<br>.69/8.4 | .140/2.50<br>3.56/6.35 | 1.0/1.50<br>25.4/38.1 |

**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:

| Sensitron Screening Level | *Part Number--<br>Leaded Package<br>(example for 1N4942) |
|---------------------------|--|
| 1N                        | 1N4942   |
| JAN                       | JAN1N4942  |
| SJ                        | SJ4942   |
| JANTX                     | JANTX1N4942  |
| SX                        | SX4942   |
| JANTXV                    | JANTXV1N4942   |
| SV                        | SV4942   |

\*Parts can also be ordered Tape & Reel

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