

TECHNICAL DATA  
DATA SHEET 158, REV. F.3

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 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-19500/477
- ✓ "JANS Plus" removes atypical/out of family  $V_F$

### MAXIMUM RATINGS

- ✓ Operating and Storage Temperature:  $-65^{\circ}\text{C}$  to  $+175^{\circ}\text{C}$
- ✓ Thermal Resistance:  $36^{\circ}\text{C}$  (junction to lead)
- ✓ Thermal Resistance:  $13^{\circ}\text{C}$  (junction to endcap)
- ✓ Forward surge current: 35A @ 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) $V_F$ @ 1A | MAXIMUM SURGE CURRENT <sup>2</sup> $I_{FSM}$ | MAXIMUM REVERSE RECOVERY TIME <sup>3</sup> $T_{rr}$ |
|-------------|------------------------------|------------------------------------|-------------------------------|-----------------------|---|--|---|
|             |                              | Amps                               | $\mu\text{Amps}$              |                       |   |  |   |
|             | Volts                        | $55^{\circ}\text{C}$               | $25^{\circ}\text{C}$          | $125^{\circ}\text{C}$ | V   | Amps   | nsec  |
| 1N5802/US   | 50                           | 2.5                                | 1                             | 175                   | .875  | 35   | 25  |
| 1N5804/US   | 100                          |                                    |                               |                       |   |  |   |
| 1N5806/US   | 150                          |                                    |                               |                       |   |  |   |

Note 1:  $T_{EC} = T_L$  at  $L=0$  or  $T_{end\ tab}$  for US suffix devices. Derate at  $25\text{mA}/^{\circ}\text{C}$  for  $T_L$  above  $75^{\circ}\text{C}$ .

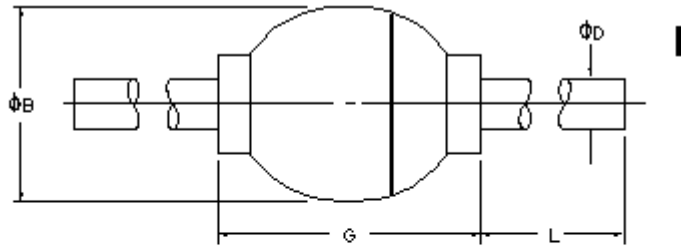
Note 2:  $I_o = 1\text{A}$ , 8ms surge

Note 3:  $I_F=0.5\text{A}$ ,  $I_{rm}=1\text{A}$ ,  $I_{r(REC)}=.25\text{A}$

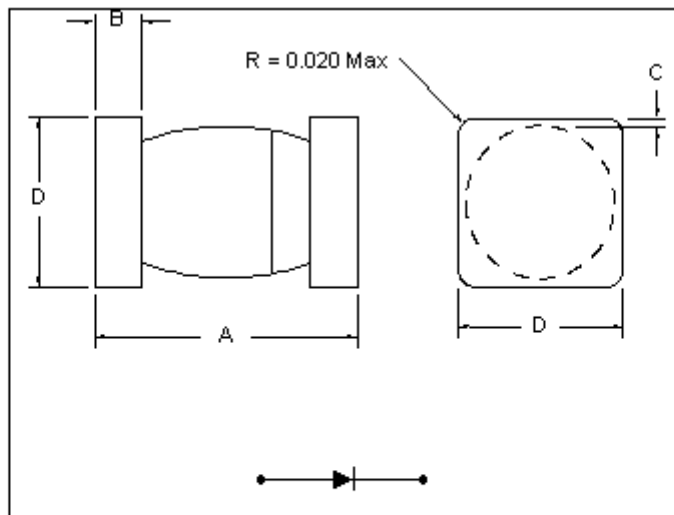
\*Sensitron **space equivalent diodes** are manufactured and screened to MIL-PRF-19500 flow and guidelines starting from wafer fabrication through assembly and testing using our internal specification.

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**PACKAGE DIMENSIONS (inches/mm)**



| PACKAGE | DIMENSIONS - INCHES / MILLIMETERS |                      |                        |                          |
|---------|-----------------------------------|----------------------|------------------------|--------------------------|
| STYLE   | $\phi B$                          | $\phi D$             | G                      | L                        |
| 106     | .065/.085<br>1.65/2.16            | .027/.032<br>.69/.81 | .125/.250<br>3.18/6.35 | .700/1.30<br>17.78/33.02 |

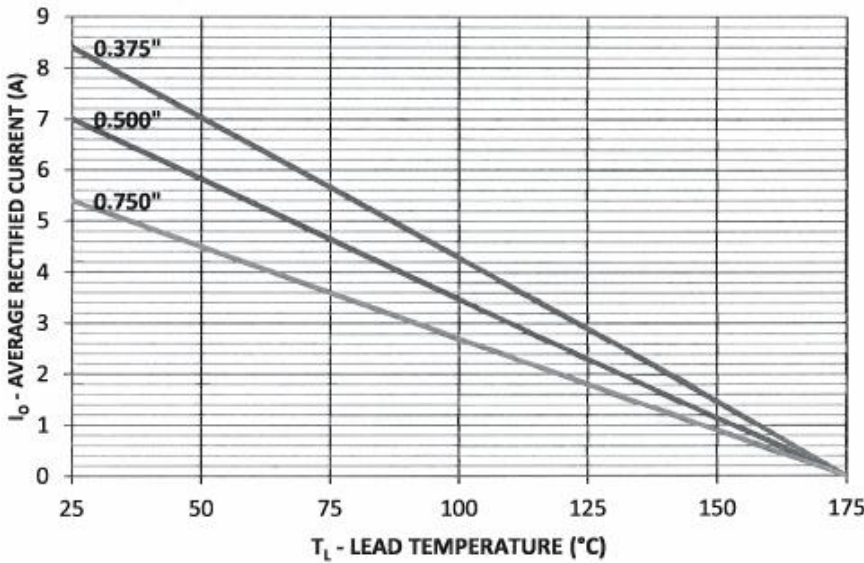
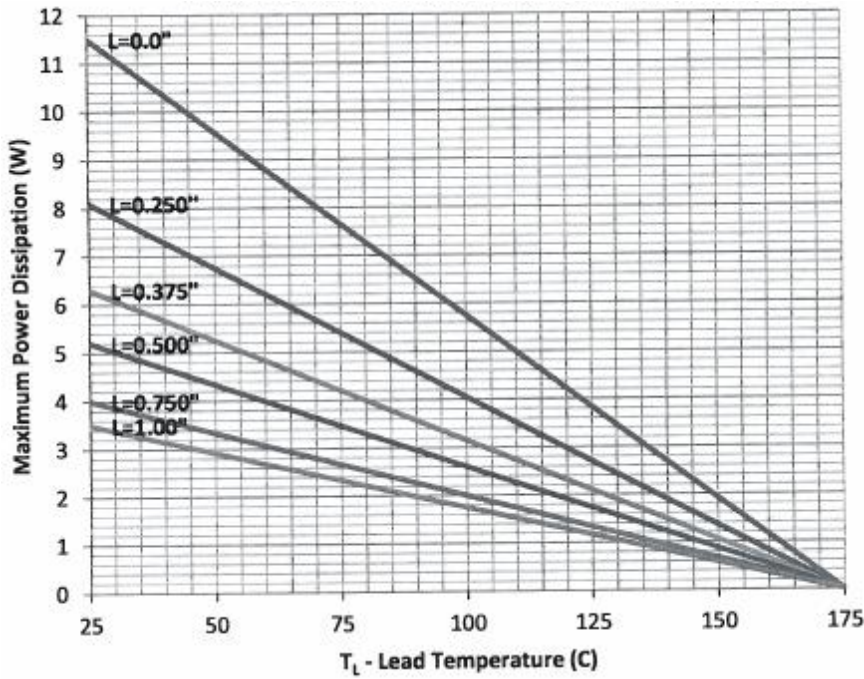


| PACKAGE | DIMENSIONS - INCHES / MILLIMETERS |                       |                     |                        |
|---------|-----------------------------------|-----------------------|---------------------|------------------------|
| STYLE   | A                                 | B                     | C                   | D                      |
| MELF-A  | .168/.200<br>4.27/5.08            | 0.019/.028<br>.48/.71 | .003 Min<br>.08 Min | .091/.103<br>2.31/2.62 |

**Note:** The cathode side is marked with a dark colored band on one side of the diode body.

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**GRAPHS:**



# **SENSITRON** **SEMICONDUCTOR**

1N5802/US thru 1N5806/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:

| <b>Sensitron Screening Level</b> | <b>*Part Number--<br/>Leaded Package<br/>(example for 1N5802)</b> | <b>*Part Number--<br/>Surface Mount Package<br/>(example for 1N5802US)</b> |
|----------------------------------|---|--|
| <b>1N</b>                        | 1N5802  | 1N5802US   |
| <b>JAN</b>                       | JAN1N5802   | JAN1N5802US  |
| <b>SJ</b>                        | SJ5802  | SJ5802US   |
| <b>JANTX</b>                     | JANTX1N5802   | JANTX1N5802US  |
| <b>SX</b>                        | SX5802  | SX5802US   |
| <b>JANTXV</b>                    | JANTXV1N5802  | JANTXV1N5802US   |
| <b>SV</b>                        | SV5802  | SV5802US   |
| <b>JANS</b>                      | JANS1N5802  | JANS1N5802US   |
| <b>SS</b>                        | SS5802  | SS5802US   |

\*Parts can also be ordered Tape & Reel

### **DISCLAIMER:**

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