

## Standard Recovery Rectifiers

*Qualified per MIL-PRF-19500/427*

### DESCRIPTION:

This voidless hermetically sealed standard recovery rectifier diode series is military qualified per MIL-PRF-19500/427 and is targeted for commercial and military aircraft, space, military vehicles, shipboard markets and all high reliability applications.

### FEATURES / BENEFITS

- ✓ Hermetic, non-cavity glass package
- ✓ Category I Metallurgically bonded
- ✓ All parts are 100% hot solder dipped
- ✓ JAN/ JANTX/JANTXV available per MIL-PRF-19500/427

### MAXIMUM RATINGS

- ✓ Operating and Storage Temperature: -65°C to +175°C
- ✓ Solder temperature: 260 °C for 10s (max)
- ✓ Thermal Resistance: 36 °C (junction to lead)
- ✓ Thermal Resistance: 13 °C (junction to endcap)
- ✓ Forward surge current: 30A @ 8.3 ms half-sine

### ELECTRICAL CHARACTERISTICS

| TYPE NUMBER | PEAK INVERSE VOLTAGE | MIN BREAKDOWN VOLTAGE | AVG RECTIFIED CURRENT |       | MAXIMUM REVERSE CURRENT @ PIV |       | MAX. PEAK FORWARD VOLTAGE (PULSED) VF @ 3A | MAX. SURGE CURRENT <sup>1</sup> IFSM | MAXIMUM REVERSE RECOVERY TIME <sup>2</sup> Trr |
|-------------|----------------------|-----------------------|-----------------------|-------|-------------------------------|-------|--|--------------------------------------|--|
|             |                      |                       | Amps                  |       | μAmps                         |       |  |                                      |  |
|             | Volts                | Volts                 | 55°C                  | 100°C | 25°C                          | 100°C | V  | Amps                                 | nsec   |
| 1N5614/US   | 200                  | 220                   |                       |       |                               |       |  |                                      |  |
| 1N5616/US   | 400                  | 440                   |                       |       |                               |       |  |                                      |  |
| 1N5618/US   | 600                  | 660                   | 1.0                   | .750  | .5                            | 25    | 1.3  | 30                                   | 2000   |
| 1N5620/US   | 800                  | 880                   |                       |       |                               |       |  |                                      |  |
| 1N5622/US   | 1000                 | 1100                  |                       |       |                               |       |  |                                      |  |

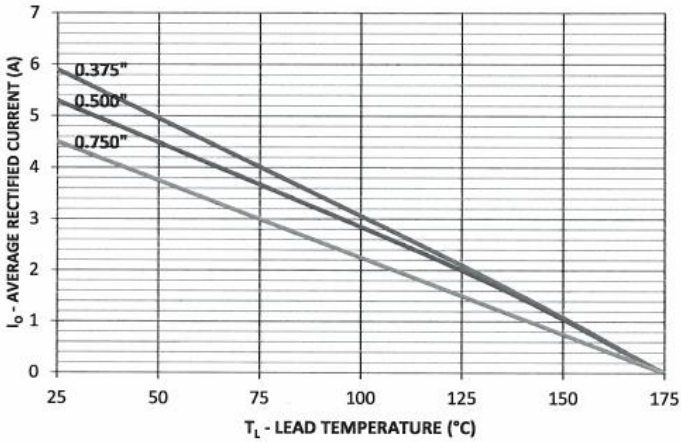
Note 1:  $I_o = 1A$ , 8ms surge

Note 2:  $I_f=0.5A$ ,  $I_{RM}=1A$ ,  $I_{r(REC)} = .25A$

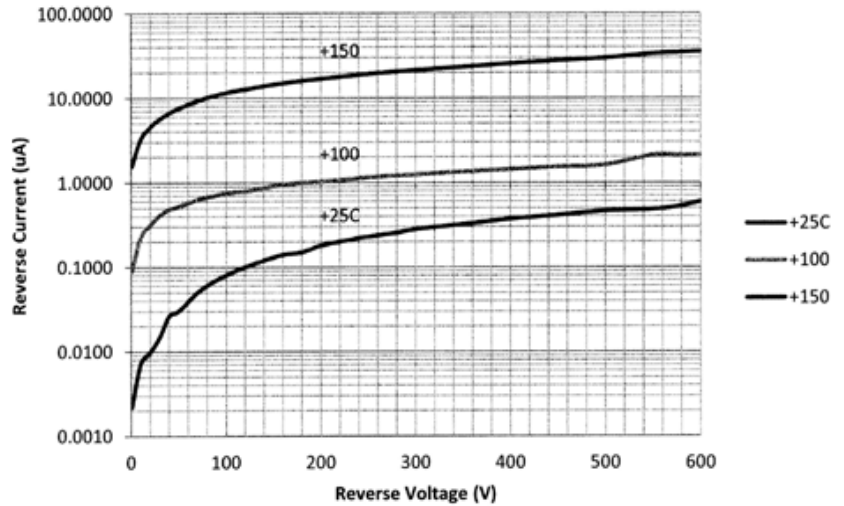
TECHNICAL DATA  
DATA SHEET 874, REV. C.4

GRAPHS:

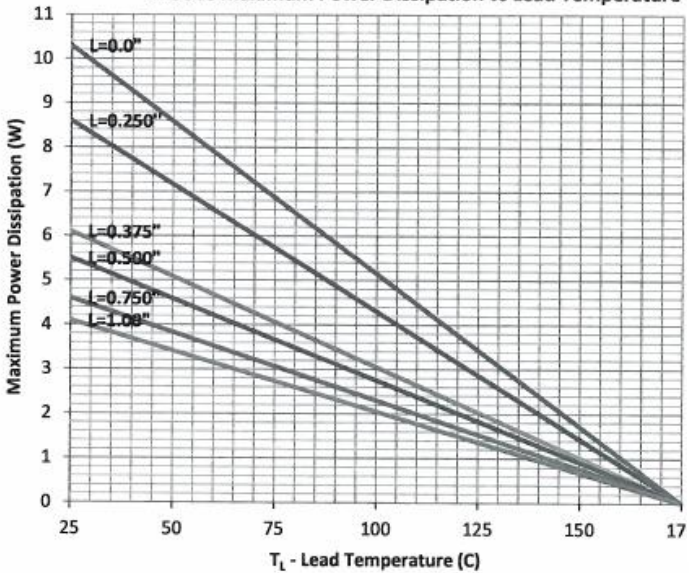
1N5616 Maximum Current vs Lead Temperature  
(Power @  $T_j = +175^\circ\text{C}$ )



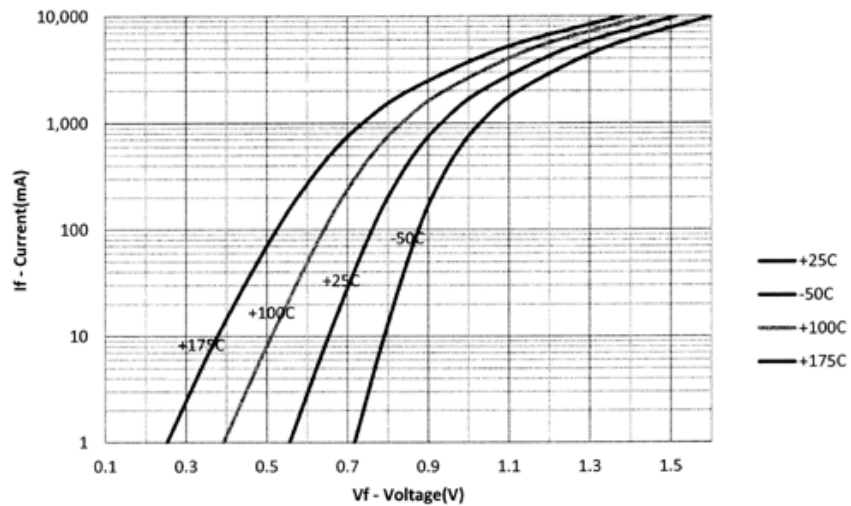
1N5618 Typical Reverse Current vs Reverse Voltage



1N5616 Maximum Power Dissipation vs Lead Temperature



1N5618 Typical Forward Voltage vs Forward Current



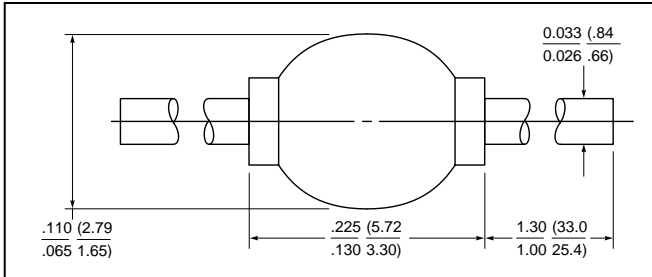
# **SENSITRON** **SEMICONDUCTOR**

1N5614/US thru 1N5622/US

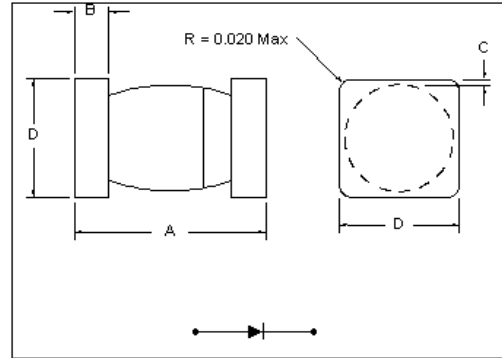
**STANDARD RECOVERY  
RECTIFIERS**

## TECHNICAL DATA DATA SHEET 874, REV. C.4

### PACKAGE DIMENSIONS (inches/mm)



PKG.102



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

| PACKAGE STYLE | DIMENSIONS - INCHES / MILLIMETERS |                         |                     |                         |
|---------------|-----------------------------------|-------------------------|---------------------|-------------------------|
|               | 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 |

### 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 1N5614) | *Part Number--<br>Surface Mount Package<br>(example for 1N5614US) |
|---------------------------|--|---|
| <b>1N</b>                 | 1N5614   | 1N5614US  |
| <b>JAN</b>                | JAN1N5614  | JAN1N5614US   |
| <b>JANTX</b>              | JANTX1N5614  | JANTX1N5614US   |
| <b>JANTXV</b>             | JANTXV1N5614   | JANTXV1N5614US  |
| <b>JANS</b>               | JANS1N5614   | JANS1N5614US  |

\*Parts can also be ordered Tape & Reel

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