

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	$\mu\text{Amps}$	25°C			
	Volts	55°C			V	Amps	nsec
1N5802/US	50						
1N5804/US	100	2.5	1	175	.875	35	25
1N5806/US	150						

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

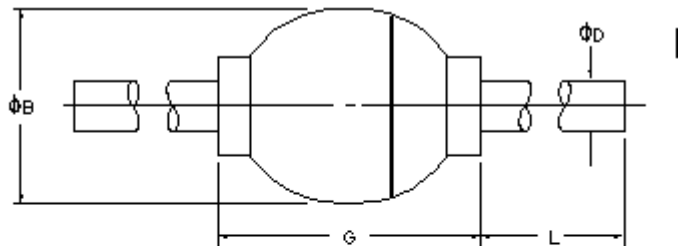
Note 2:  $I_o = 1\text{A}$ , 8ms surge

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

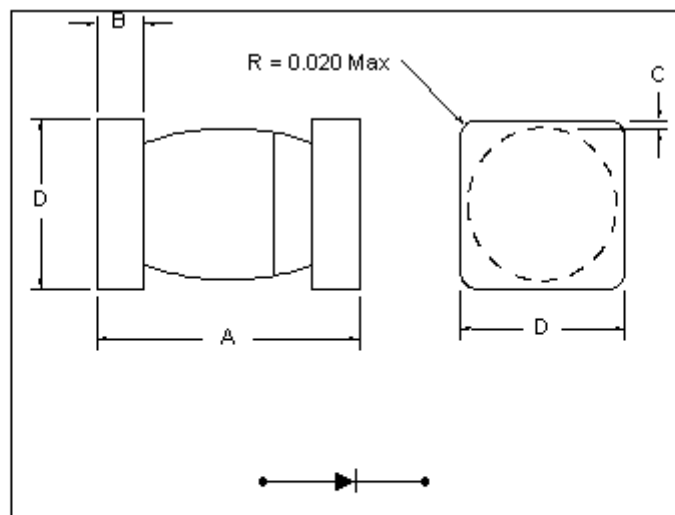
\*Sensitron **space equivalent diodes** are manufactured and screened to MIL-PRF-19500 flow and guidelines starting from wafer fabrication through assembly and testing using our internal specification.

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**PACKAGE DIMENSIONS (inches/mm)**



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

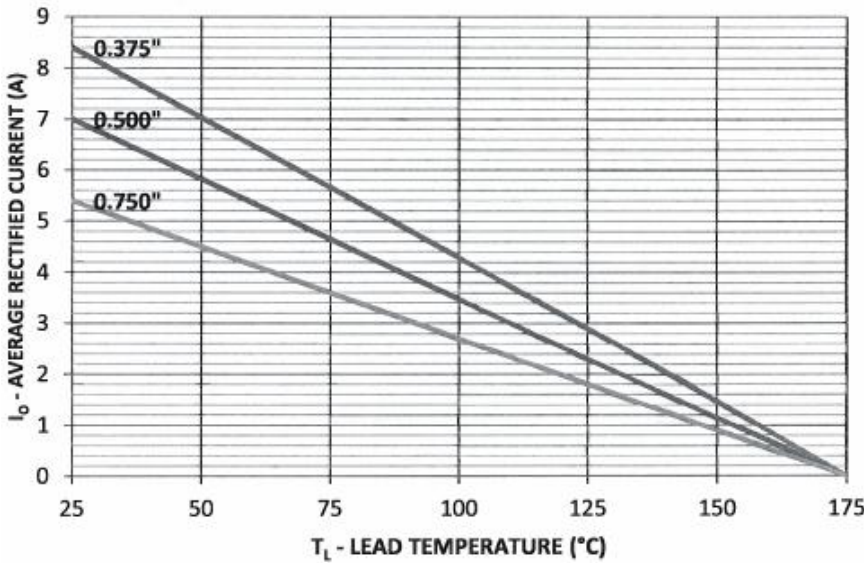
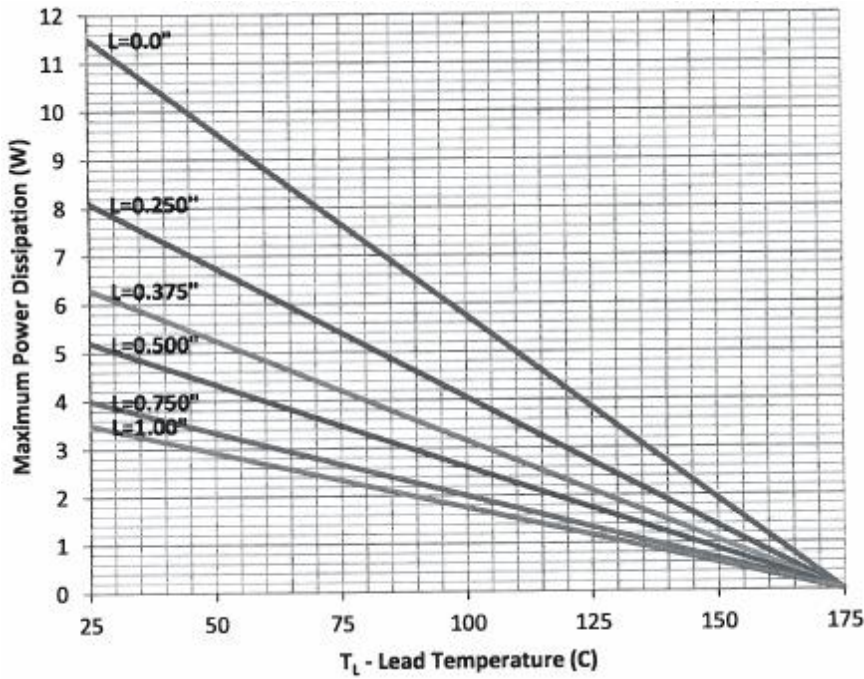


PACKAGE	DIMENSIONS - INCHES / MILLIMETERS			
STYLE	A	B	C	D
MELF-A	.168/.200 4.27/5.08	0.019/.028 .48/.71	.003 Min .08 Min	.091/.103 2.31/2.62

**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-- Leaded Package (example for 1N5802)</b>	<b>*Part Number-- Surface Mount Package (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:**

- 1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the Sensitron Semiconductor sales department for the latest version of the datasheet(s).
- 2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment, and safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement.
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