

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

MAXIMUM RATINGS

- ✓ Operating and Storage Temperature: -65°C to $+175^{\circ}\text{C}$
- ✓ 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) V_F @ 3A	MAX. SURGE CURRENT ¹ IFSM	MAXIMUM REVERSE RECOVERY TIME ² T_{rr}
			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: $I_o = 1\text{A}$, 8ms surge

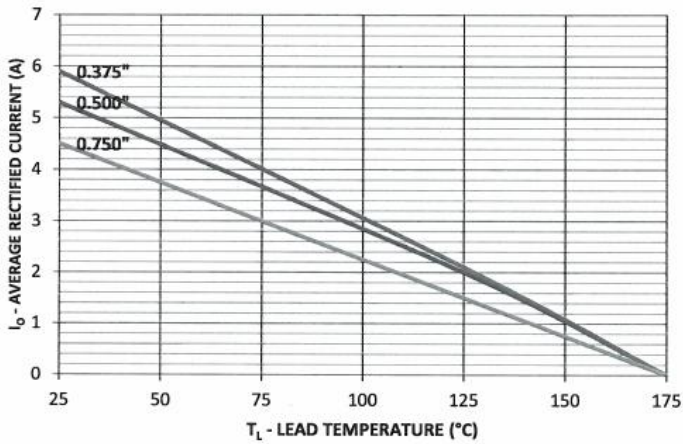
Note 2: $I_F=0.5\text{A}$, $I_{RM}=1\text{A}$, $I_{r(REC)} = .25\text{A}$

*Sensitron 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.

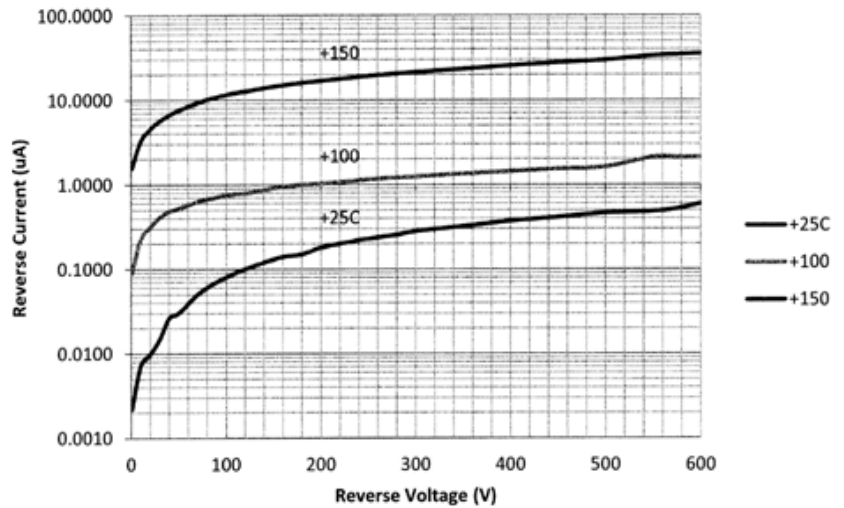
TECHNICAL DATA
DATA SHEET 874, REV. C.3

GRAPHS:

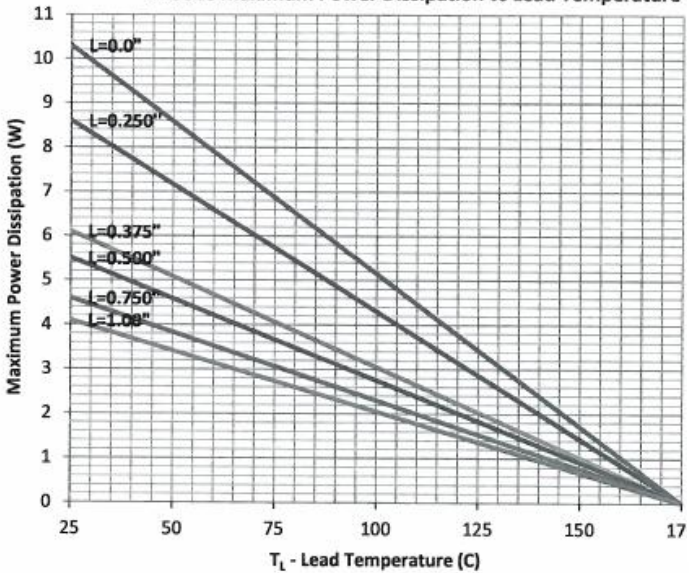
1N5616 Maximum Current vs Lead Temperature
(Power @ $T_j = +175^\circ\text{C}$)



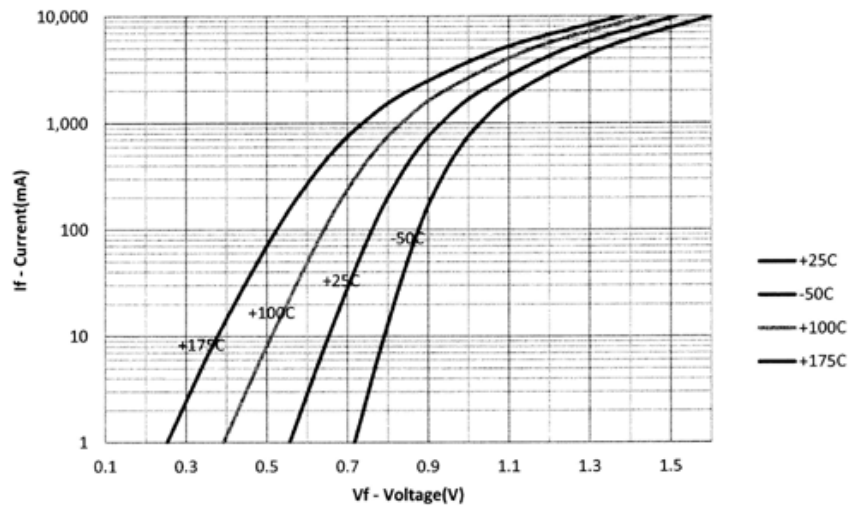
1N5618 Typical Reverse Current vs Reverse Voltage



1N5616 Maximum Power Dissipation vs Lead Temperature



1N5618 Typical Forward Voltage vs Forward Current



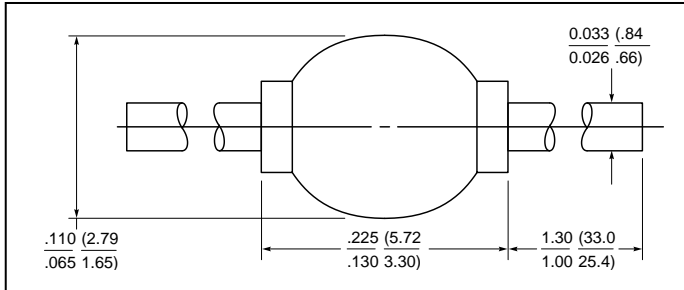
SENSITRON SEMICONDUCTOR

1N5614/US thru 1N5622/US

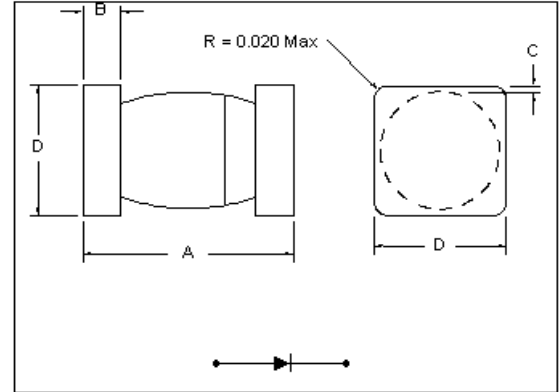
STANDARD RECOVERY
RECTIFIERS

TECHNICAL DATA DATA SHEET 874, REV. C.3

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 4.27/5.08	0.019/.028 .48/.71	.003 Min .08 Min	.091/.103 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-- Leaded Package (example for 1N5614)	*Part Number-- Surface Mount Package (example for 1N5614US)
1N	1N5614	1N5614US
JAN	JAN1N5614	JAN1N5614US
SJ	SJ5614	SJ5614US
JANTX	JANTX1N5614	JANTX1N5614US
SX	SX5614	SX5614US
JANTXV	JANTXV1N5614	JANTXV1N5614US
SV	SV5614	SV5614US
JANS	JANS1N5614	JANS1N5614US
SS	SS5614	SS5614US

*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.
- 3- In no event shall Sensitron Semiconductor be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). Sensitron Semiconductor assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.
- 4- In no event shall Sensitron Semiconductor be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.
- 5- No license is granted by the datasheet(s) under any patents or other rights of any third party or Sensitron Semiconductor.
- 6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of Sensitron Semiconductor.
- 7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations.