

TECHNICAL DATA  
DATA SHEET 5081, REV. A.3

AVAILABLE AS  
1N, JAN, JANTX, JANTXV  
JANS  
JAN EQUIVALENT\*  
SJ\*, SX\*, SV\*, SS\*

## Fast Recovery Rectifiers

Qualified per MIL-PRF-19500/429

### DESCRIPTION:

This voidless hermetically sealed fast recovery rectifier diode series is military qualified per MIL-PRF-19500/429 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 parts are 100% hot solder dipped
- ✓ JAN/ JANTX/JANTXV available per MIL-PRF-19500/429
- ✓ "JANS Plus" removes atypical/out of family  $V_F$

### 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)
- ✓ Thermal Resistance: 13°C (junction to endcap)
- ✓ Forward surge current: 25A @ 8.3 ms half-sine

### ELECTRICAL CHARACTERISTICS

TYPE NUMBER	PEAK INVERSE VOLTAGE	AVG. RECTIFIED CURRENT <sup>1</sup>		MAXIMUM REVERSE CURRENT @ PIV		MAX. PEAK FORWARD VOLTAGE (PULSED)		PEAK 1 CYCLE SURGE CURRENT <sup>2</sup>	MAXIMUM REVERSE RECOVERY TIME T <sub>rr</sub> I <sub>F</sub> =0.5A I <sub>RM</sub> =1A I <sub>R(REC)</sub> =0.25A	THERM RES R <sub>θJL</sub> d=.375
		Amps	μAmps	μAmps	μAmps	V	A			
	Volts	50°C	100°C	25°C	100°C			Amps	nsec	°C/W
1N5615	200								150	
1N5617	400								150	
1N5619	600	1.0	.75	0.5	25	1.6	3.0	25	250	38
1N5621	800								300	
1N5623	1000								500	

Note 1: I<sub>o</sub> = 1A, T<sub>A</sub>=55°C

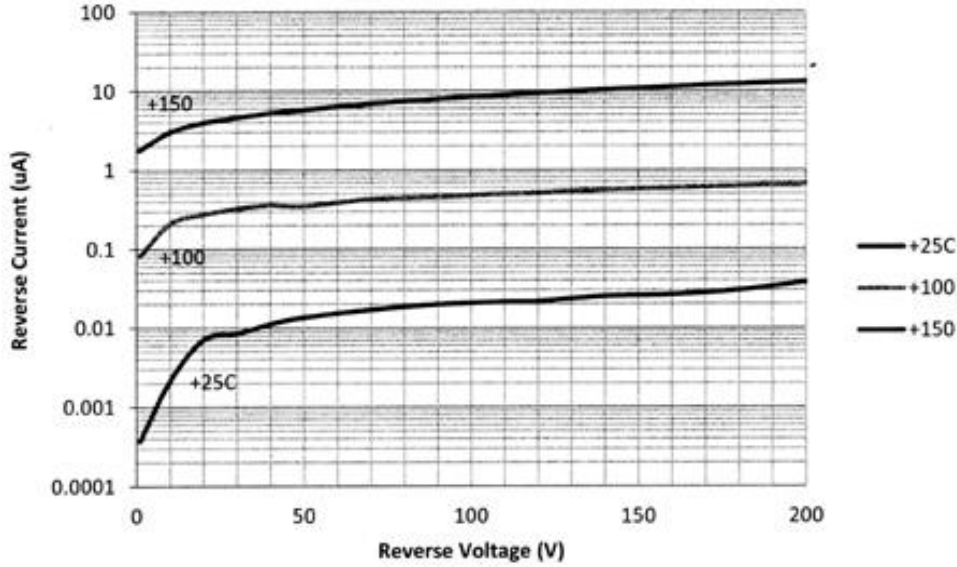
Note 2: T<sub>A</sub>=100°C, I<sub>o</sub>=750mA, f =60Hz, 8.3 surge

\*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.

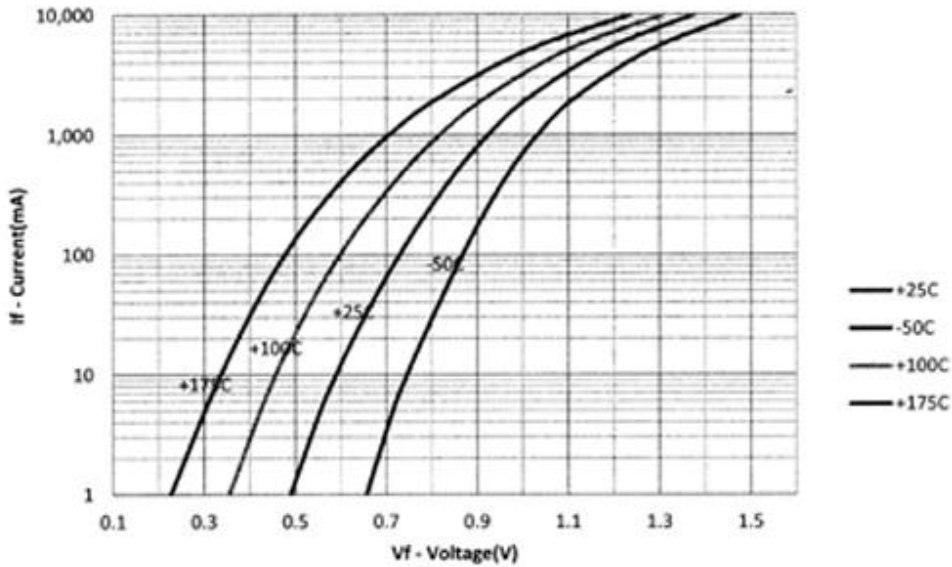
TECHNICAL DATA  
DATA SHEET 5081, REV. A.3

GRAPHS

1N5615 Typical Reverse Current vs Reverse Voltage

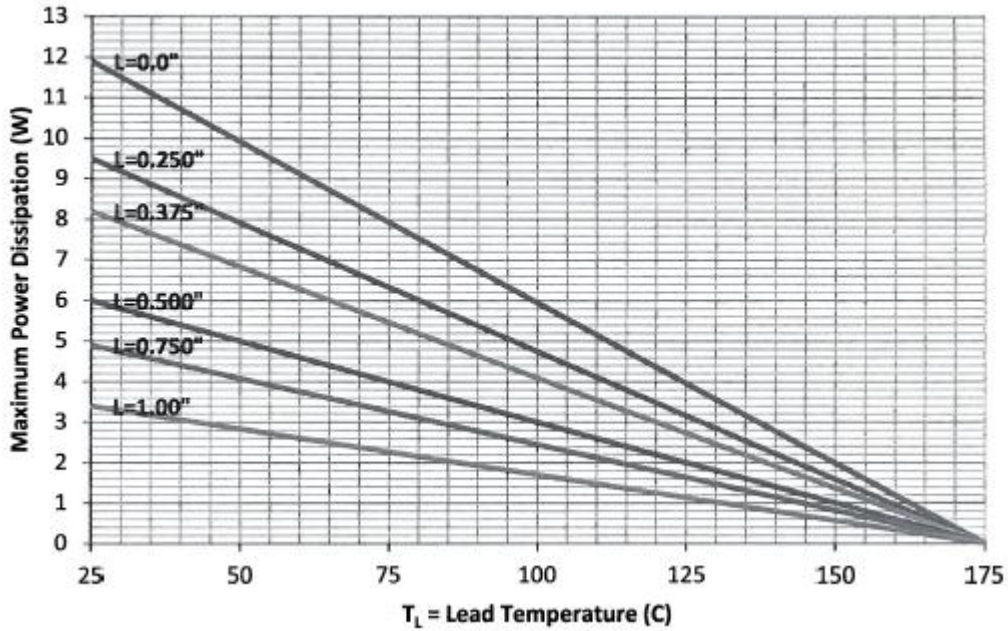


1N5615 Typical Forward Voltage vs Forward Current

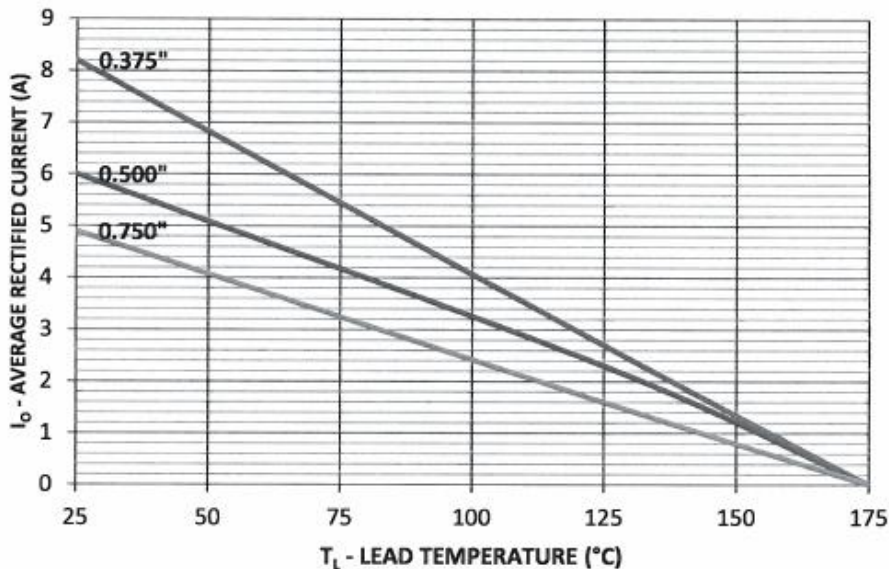


TECHNICAL DATA  
DATA SHEET 5081, REV. A.3

1N5615 Maximum Power Dissipation vs Lead Temperature



1N5615 Maximum Current vs Lead Temperature  
(Power @  $T_j = +175^\circ\text{C}$ )

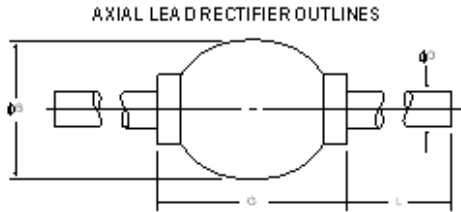


# SENSITRON SEMICONDUCTOR

1N5615/US thru 1N5623/US  
FAST RECOVERY RECTIFIERS

## TECHNICAL DATA DATA SHEET 5081, REV. A.3

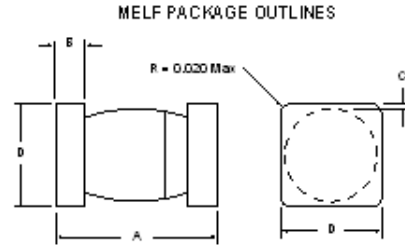
### PACKAGE DIMENSIONS (inches/mm)



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

PACKAGE STYLE	DIMENSIONS - INCHES / MILLIMETERS			
	B	D	G	L
102	.065/.110 1.65/2.79	.026/.033 .66/.84	.130/.225 3.30/5.72	1.00/1.30 25.4/33.0

**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			
	A	B	C	D
MELF-1	.168/.200 4.27/5.08	.019/.028 0.48/0.71	.003 0.08	.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 1N5615)	*Part Number-- Surface Mount Package (example for 1N5615US)
1N	1N5615	1N5615US
JAN	JAN1N5615	JAN1N5615US
SJ	SJ5615	SJ5615US
JANTX	JANTX1N5615	JANTX1N5615US
SX	SX5615	SX5615US
JANTXV	JANTXV1N5615	JANTXV1N5615US
SV	SV5615	SV5615US
JANS	JANS1N5615	JANS1N5615US
SS	SS5615	SS5615US

\*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.