

SENSITRON

SEMICONDUCTOR

TECHNICAL DATA
DATA SHEET 124, REV A.1

1N5186 thru 1N5188, 1N5190

FAST RECOVERY DIODE

AVAILABLE AS

1N
JAN, JANTX, JANTXV
JANS
JAN EQUIVALENT*
SJ49XX*, SX49XX*, SV49XX*
SS49XX*

Fast Recovery Rectifiers

Qualified per MIL-PRF-19500/424

DESCRIPTION:

This voidless hermetically sealed fast recovery rectifier diode series is military qualified per MIL-PRF-19500/424 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-19500/424
- ✓ "JANS Plus" removes atvoical/out of familv V_c

MAXIMUM RATINGS

- ✓ Operating and Storage Temperature: -65°C to +175°C
- ✓ Solder temperature: 260°C for 10s (max)
- ✓ Thermal Resistance: 20°C (junction to lead)

SENSITRON SEMICONDUCTOR

1N5186 thru 1N5188, 1N5190

FAST RECOVERY DIODE

TECHNICAL DATA
DATA SHEET 124, REV A.1

ELECTRICAL CHARACTERISTICS

MAX. RATINGS / ELECTRICAL CHARACTERISTICS All ratings are at $T_A = 25^\circ\text{C}$ unless otherwise specified.

RATING	CONDITIONS	MIN	TYP	MAX	UNIT
Peak Inverse Voltage (PIV) 1N5186 1N5187 1N5188 1N5190	-	-	-	100 200 400 600	Vdc
Average DC Output Current (I_o)	$T_A = +25^\circ\text{C}$ $T_A = +150^\circ\text{C}$	-	-	3.0 0.7	Amps
Peak Single Cycle Surge Current (I_{fsm})	$t_p = 8.3$ ms Single Half Cycle Sine Wave, Superimposed On Rated Load	-	-	80	Amps(pk)
Operating and Storage Temp. (T_{op} & T_{stg})	-	-65	-	+175	$^\circ\text{C}$
Maximum Forward Voltage (V_f)	$I_f = 9\text{A}$ (300 μsec pulse, duty cycle < 2%)	.9	-	1.5	Volts
Maximum Instantaneous Reverse Current At Rated (PIV)	$T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$	-	-	2.0 100	μAmps
Reverse Recovery Time (t_{rr}) 1N5186 1N5187 1N5188 1N5190	$I_f = 0.5\text{A}$, $I_r = 1.0\text{A}$, $I_{rr} = 0.25\text{A}$	-	-	150 200 250 400	nsec
Thermal Resistance (θ_{JL})	$d = 0.375''$	-	-	20	$^\circ\text{C/W}$

*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.

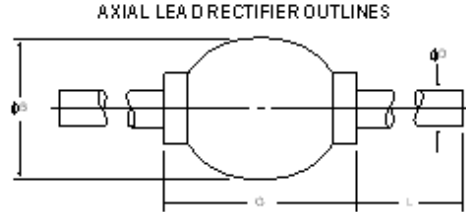
SENSITRON SEMICONDUCTOR

1N5186 thru 1N5188, 1N5190

FAST RECOVERY DIODE

TECHNICAL DATA
DATA SHEET 124, REV A.1

PACKAGE DIMENSIONS (inches/mm)



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

PACKAGE STYLE	DIMENSIONS - INCHES / MILLIMETERS			
	ϕB	ϕD	G	L
303	.110/.180 2.79/4.57	.037/.042 .94/1.07	.130/.260 3.30/6.60	.90/1.30 22.9/33.0

PART ORDERING INFORMATION

The following part numbers can be 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 1N5186)
1N	1N5186
JAN	JAN1N5186
SJ	SJ5186
JANTX	JANTX1N5186
SX	SX5186
JANTXV	JANTXV1N5186
SV	SV5186

*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.