

# ***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<sub>c</sub>

### **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)

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## 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 $\mu\text{sec}$ 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	$\mu\text{Amps}$
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 ( $\theta_{JL}$ )	$d = 0.375''$	-	-	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.

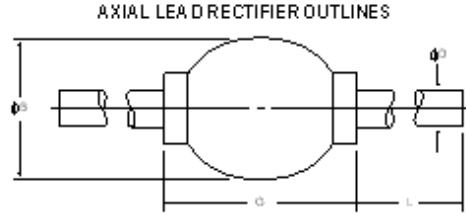
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## PACKAGE DIMENSIONS (inches/mm)



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

PACKAGE STYLE	DIMENSIONS - INCHES / MILLIMETERS			
	$\phi B$	$\phi D$	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)
<b>1N</b>	1N5186
<b>JAN</b>	JAN1N5186
<b>SJ</b>	SJ5186
<b>JANTX</b>	JANTX1N5186
<b>SX</b>	SX5186
<b>JANTXV</b>	JANTXV1N5186
<b>SV</b>	SV5186

\*Parts can also be ordered Tape & Reel

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