

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 atypical/out of family V_{CE}

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 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.

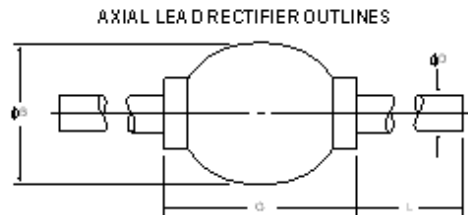
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PACKAGE DIMENSIONS (inches/mm)



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

PACKAGE STYLE	DIMENSIONS - INCHES / MILLIMETERS			
	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

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