

# SENSITRON SEMICONDUCTOR

1N5415/US thru 1N5420/US

**3A FAST RECOVERY  
RECTIFIERS**

TECHNICAL DATA  
DATA SHEET 125, REV D.1

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

## Fast Recovery Rectifiers

*Qualified per MIL-PRF-19500/411*

### DESCRIPTION:

This voidless hermetically sealed fast recovery rectifier diode series is military qualified per MIL-PRF-19500/411 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-19500/411
- ✓ "JANS Plus" removes atypical/out of family  $V_F$

### 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) 1N5415,US 1N5416,US 1N5417,US 1N5418,US 1N5419,US 1N5420,US	-	-	-	50 100 200 400 500 600	Vdc
Average DC Output Current ( $I_o$ )	$T_A = +55^\circ\text{C}$	-	-	3.0	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 ( $V_f$ ) 1N5415/US, 1N5416,US 1N5417,US, 1N5418,US 1N5419/US, 1N5420,US	$I_f = 9.0\text{A}$ (300 $\mu\text{sec}$ pulse, duty cycle < 2%)	-	-	1.6 1.7 1.8	Volts
Maximum Instantaneous Reverse Current At Rated (PIV)	$T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$	-	-	1.0 20	$\mu\text{Amps}$

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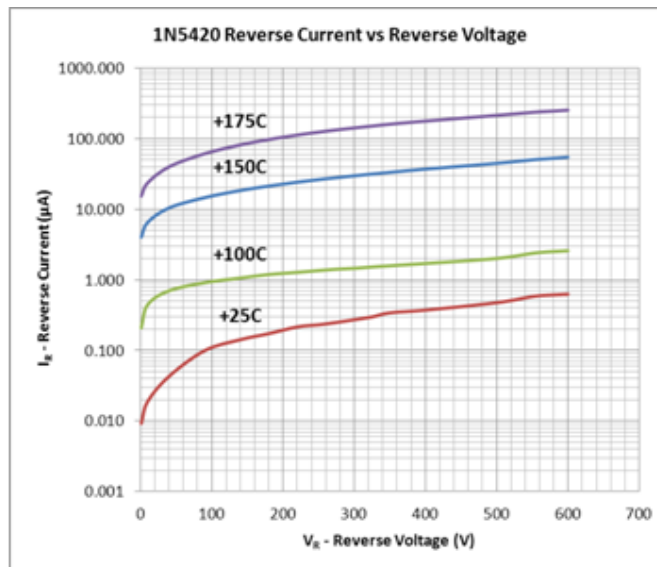
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RATING	CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Recovery Time ( $t_{rr}$ ) 1N5415/US, 1N5416,US 1N5417,US, 1N5418,US 1N5419/US, 1N5420,US	$I_f = 0.5A, I_r = 1.0A, I_{rr} = 0.25A$	-	-	150 150 250 400	nsec
Thermal Resistance ( $\theta_{JL}$ )	$d = 0.375"$	-	-	22	$^{\circ}C/W$
Thermal Resistance ( $\theta_{JC}$ )	$L=0$ for US versions	-	-	6.5	$^{\circ}C/W$

\*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.

## GRAPHS:

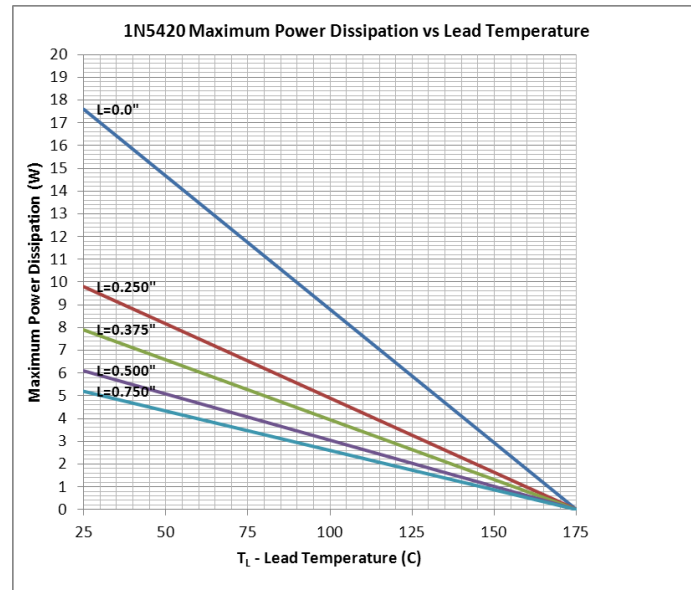
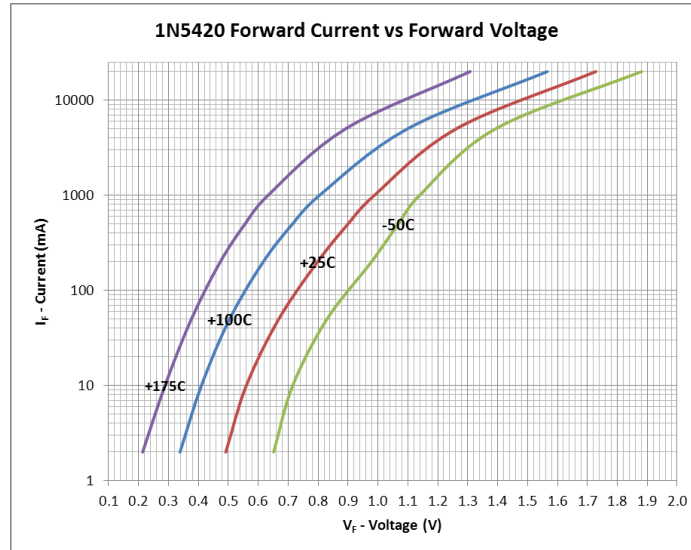


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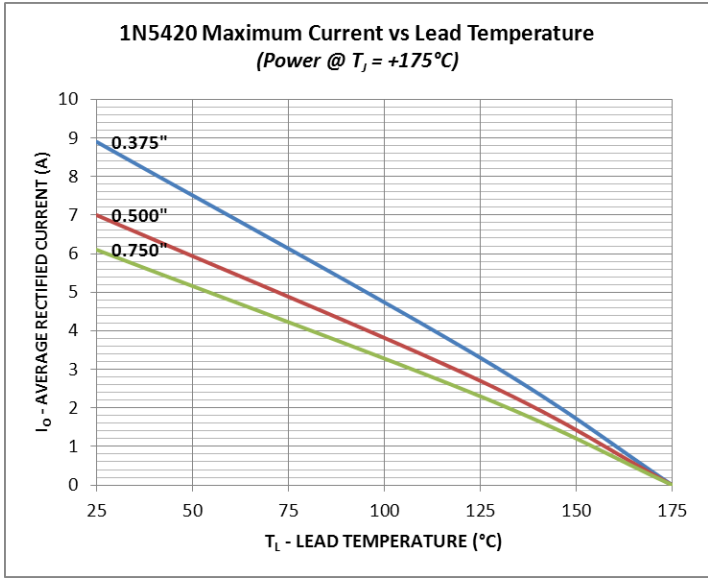
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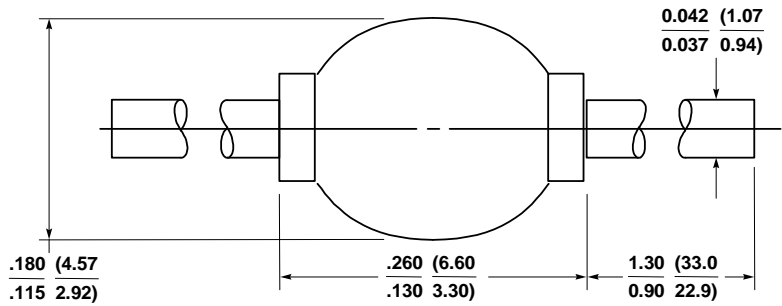
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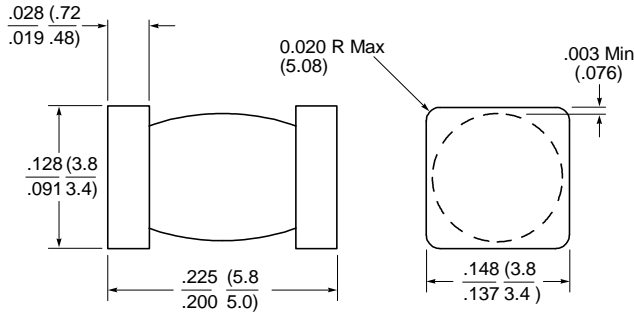


## PACKAGE DIMENSIONS (inches/mm)

### AXIAL (PKG 301)



### MELF (Add "US" to part number)



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## 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 1N5415)	*Part Number-- Surface Mount Package (example for 1N5415US)
<b>1N</b>	1N5415	1N5415US
<b>JAN</b>	JAN1N5415	JAN1N5415US
<b>JANTX</b>	JANTX1N5415	JANTX1N5415US
<b>JANTXV</b>	JANTXV1N5415	JANTXV1N5415US
<b>SJ</b>	SJ5415	SJ5415US
<b>SX</b>	SX5415	SX5415US
<b>SV</b>	SV5415	SV5415US
<b>JANS</b>	JANS1N5415	JANS1N5415US
<b>SS</b>	SS5415	SS5415US

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