

SENSITRON SEMICONDUCTOR

1N5415/US thru 1N5420/US

**3A FAST RECOVERY
RECTIFIERS**

TECHNICAL DATA
DATA SHEET 125, REV E

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)	$I_f = 9.0\text{A}$ (300 μsec pulse, duty cycle < 2%) $I_f = 1.5\text{A}$	0.6 0.5	-	1.5 1.2	Volts
Maximum Instantaneous Reverse Current At Rated (PIV)	$T_A = 25^\circ\text{C}$ $T_A = 100^\circ\text{C}$	-	-	1.0 20	μAmps

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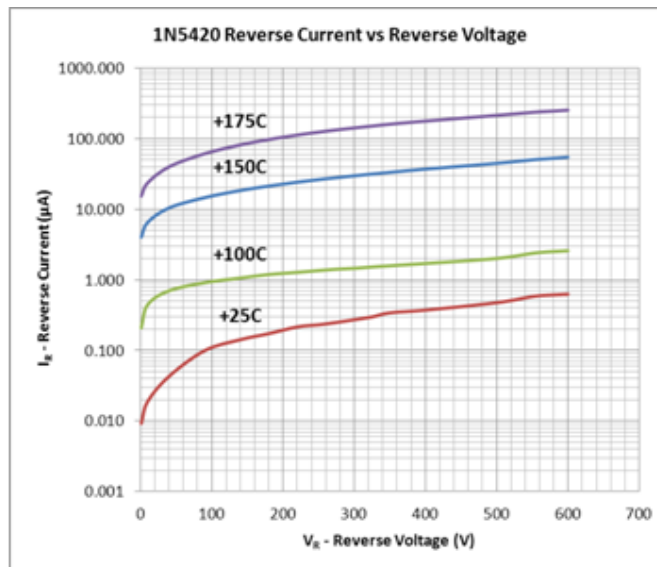
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RATING	CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Recovery Time (t_{rr}) 1N5415/US, 1N5416,US 1N5417,US, 1N5418,US 1N5419/US, 1N5420,US	$I_f = 0.5A, I_r = 1.0A, I_{rr} = 0.25A$	-	-	150 150 250 400	nsec
Thermal Resistance (θ_{JL})	$d = 0.375"$	-	-	22	$^{\circ}C/W$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

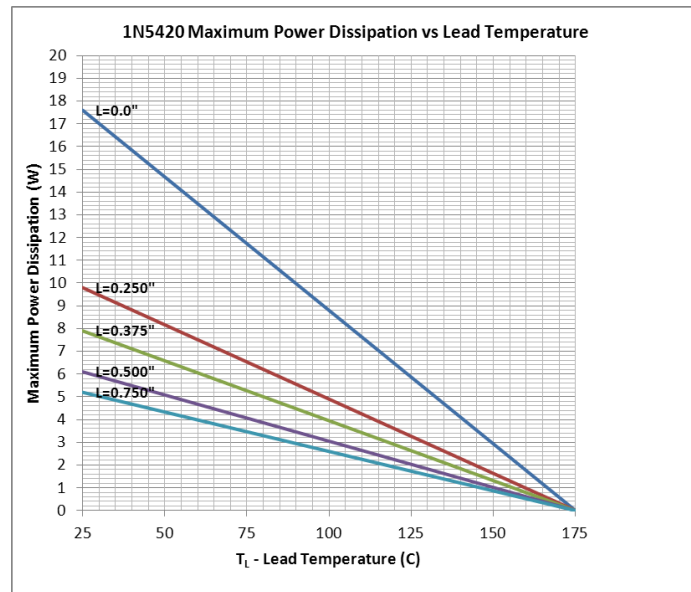
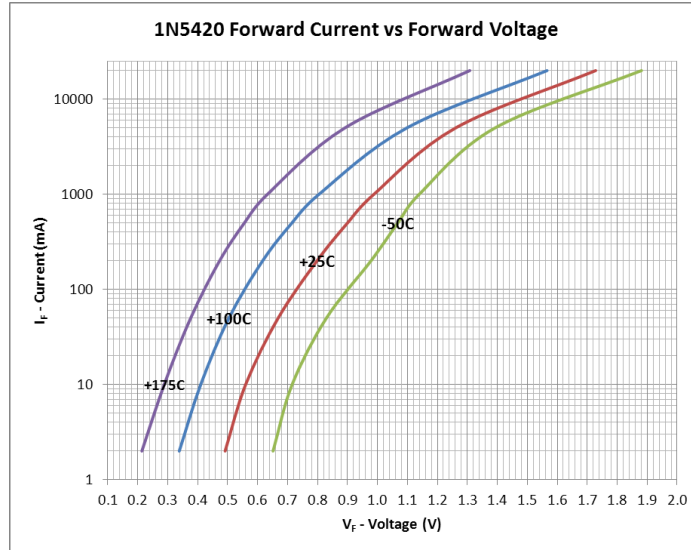


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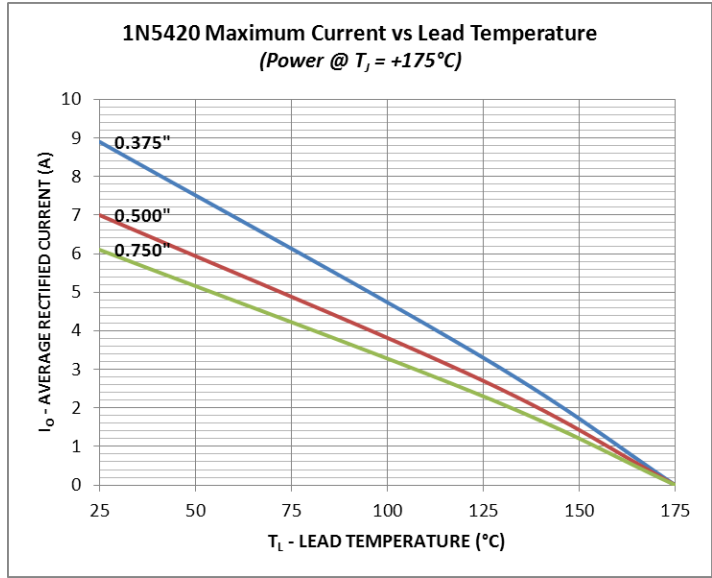
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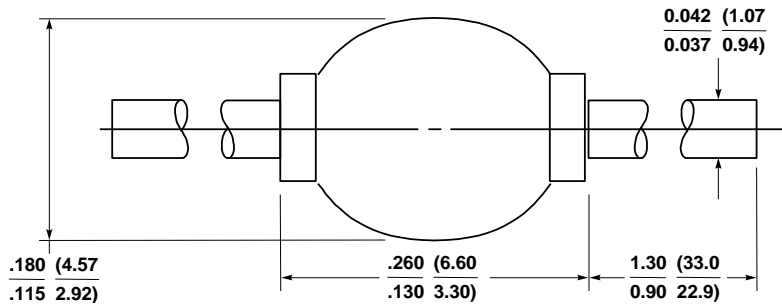
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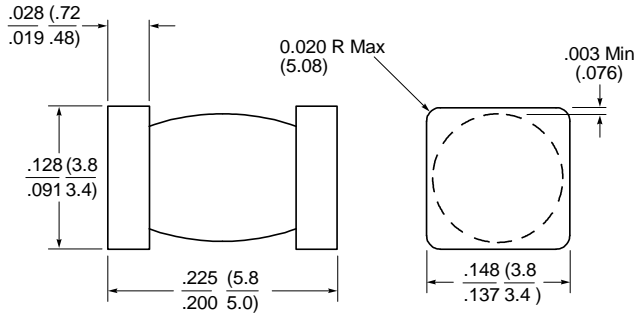


PACKAGE DIMENSIONS (inches/mm)

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)
1N	1N5415	1N5415US
JAN	JAN1N5415	JAN1N5415US
JANTX	JANTX1N5415	JANTX1N5415US
JANTXV	JANTXV1N5415	JANTXV1N5415US
SJ	SJ5415	SJ5415US
SX	SX5415	SX5415US
SV	SV5415	SV5415US
JANS	JANS1N5415	JANS1N5415US
SS	SS5415	SS5415US

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- 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.
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