

SENSITRON **SEMICONDUCTOR**

TECHNICAL DATA
DATA SHEET 125, REV E.2

1N5415/US thru 1N5420/US

**3A FAST RECOVERY
RECTIFIERS**

AVAILABLE AS
1N, JAN, JANTX, JANTXV
JANS
SJ/SX/SV/SS LEVEL,
(JAN/JANTX/JANTXV/JANS
EQUIVALENT*) SCREENING

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/JANS available per MIL-PRF-19500/411

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_{sm})	$t_p = 8.3$ 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

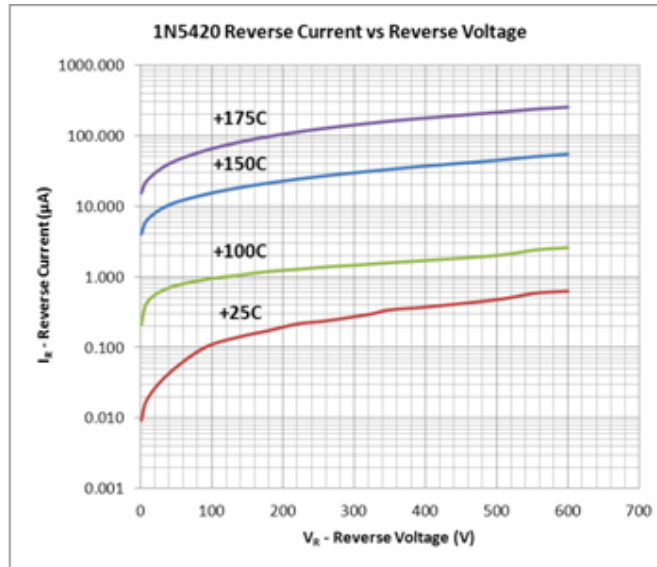
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RATING	CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Recovery Time (t_{rr}) 1N5415/US, 1N5416,US 1N5417,US, 1N5418,US 1N5419/US, 1N5420,US	$I_f = 0.5A, I_r = 1.0A, I_{rr} = 0.25A$	-	-	150 150 250 400	nsec
Thermal Resistance (θ_{JL})	$d = 0.375"$	-	-	22	$^{\circ}C/W$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

GRAPHS:

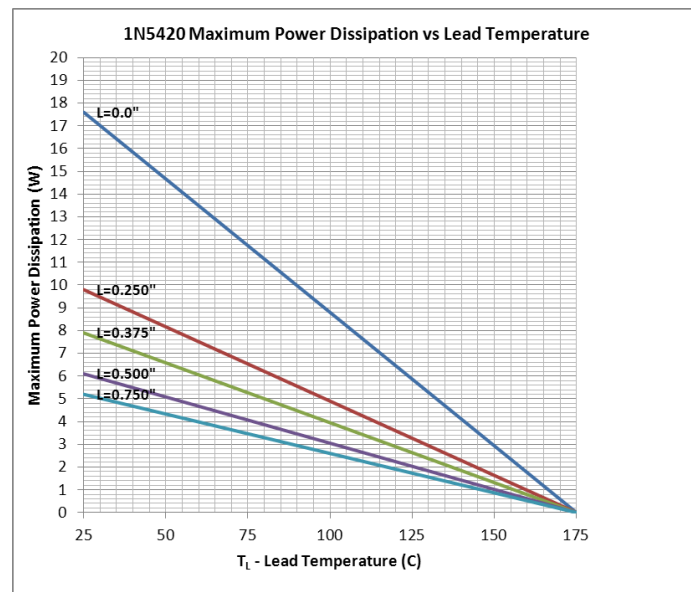
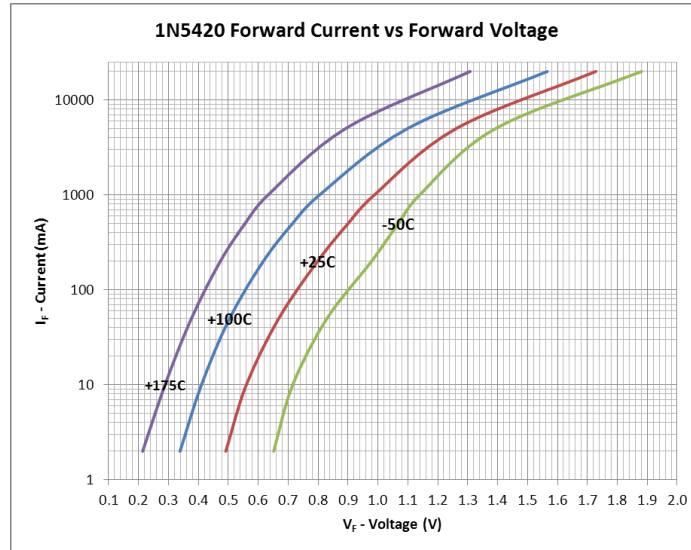


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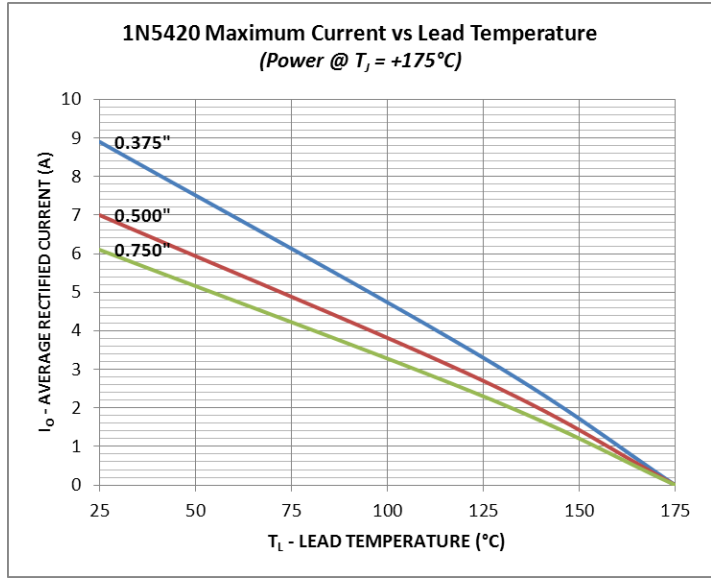
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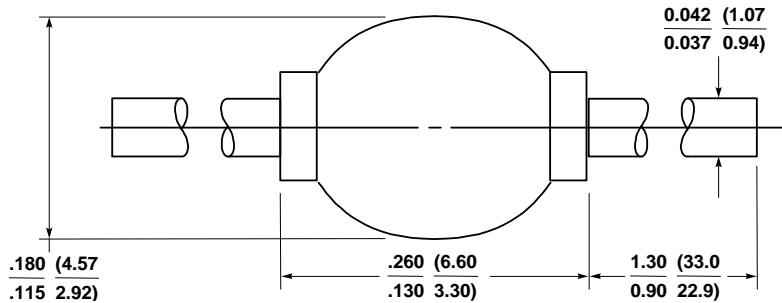
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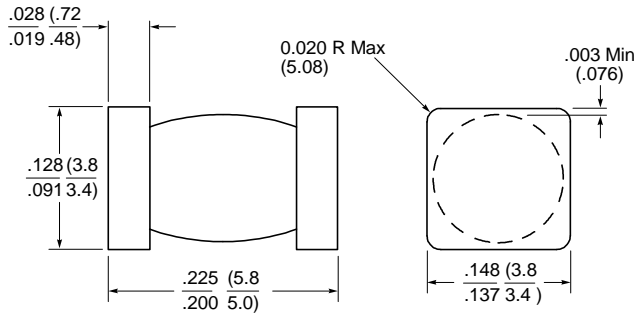


PACKAGE DIMENSIONS (inches/mm)

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
JANS	JANS1N5415	JANS1N5415US
SJ*	SJ5415	SJ5415US
SX*	SX5415	SX5415US
SV*	SV5415	SV5415US
SS*	SS5415	SS5415US

Parts can also be ordered Tape & Reel

*Sensitron SJ/SX/SV/SS level diodes are manufactured and tested to a JAN/JANTX/JANTXV/JANS equivalent flow IAW MIL-PRF-19500 from wafer fabrication through assembly, screening, test and QCI using our specification 7700-4093.

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