

# 1N5415 THRU 1N5420

## GLASS PASSIVATED FAST SWITCHING RECTIFIER

Reverse Voltage - 50 to 600 Volts Forward Current - 3.0 Amperes

### FEATURES

- ◆ Glass passivated cavity-free junction
- ◆ High temperature metallurgically bonded construction
- ◆ Hermetically sealed package
- ◆ Capable of meeting environmental standards of MIL-S-19500
- ◆ Fast switching for high efficiency
- ◆ High temperature soldering guaranteed: 350°C/10 seconds, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

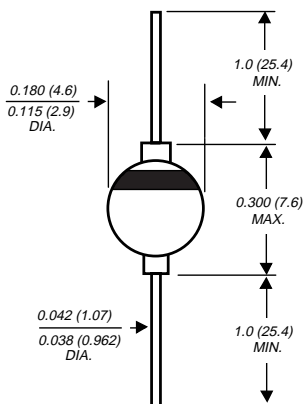


### MECHANICAL DATA

**Case:** Solid glass body  
**Terminals:** Solder plated axial leads, solderable per MIL-STD-750, Method 2026  
**Polarity:** Color band denotes cathode end  
**Mounting Position:** Any  
**Weight:** 0.037 ounce, 1.04 grams

**PATENTED\***

Case Style G4



Dimensions in inches and (millimeters)

\* Brazed-lead assembly is covered by Patent No. 3,930,306

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	1N5415	1N5416	1N5417	1N5418	1N5419	1N5420	UNITS
*Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	200	400	500	600	Volts
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	350	420	Volts
*Maximum DC blocking voltage	V <sub>DC</sub>	50	100	200	400	500	600	Volts
*Minimum reverse breakdown voltage at 50μA	V <sub>BR</sub>	55	110	220	440	550	660	Volts
*Maximum average forward rectified current 0.375" (9.5mm) lead lengths at T <sub>A</sub> =55°C	I <sub>(AV)</sub>	3.0						Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at T <sub>A</sub> =100°C	I <sub>FSM</sub>	80.0						Amps
Maximum instantaneous forward voltage at 3.0A* 9.0A	V <sub>F</sub>	1.10 1.50						Volts
Maximum DC reverse current at rated DC blocking voltage *T <sub>A</sub> =25°C T <sub>A</sub> =100°C *T <sub>A</sub> =175°C	I <sub>R</sub>	1.0 20.0 2.0						μA
*Maximum reverse recovery time (NOTE 1)	t <sub>rr</sub>	150				250	400	ns
*Maximum junction capacitance (NOTE 2)	C <sub>J</sub>	200	175	150	120	110	100	pF
Typical thermal resistance (NOTE3)	R <sub>θJA</sub>	22.0						°C/W
*Operating and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175						°C

**NOTES:**

- (1) Reverse recovery test conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>= 1.0A, I<sub>rr</sub>=0.25A
  - (2) Measured at 1.0 MHz and applied reverse voltage of 12.0 Volts
  - (3) Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, with both leads to heat sink
- \*JEDEC registered values

# RATINGS AND CHARACTERISTIC CURVES 1N5415 THRU 1N5420

FIG. 1 - FORWARD CURRENT DERATING CURVE

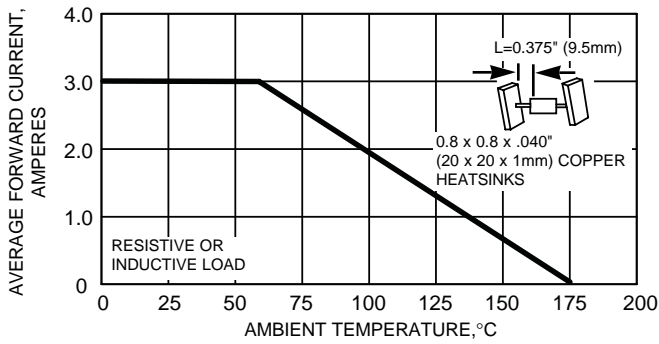


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

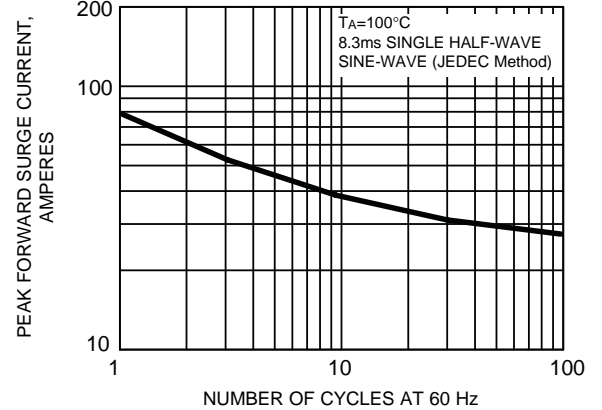


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

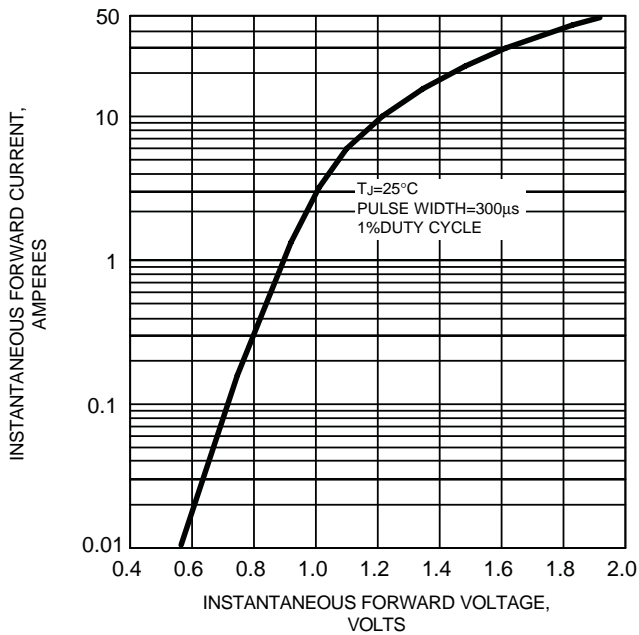


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

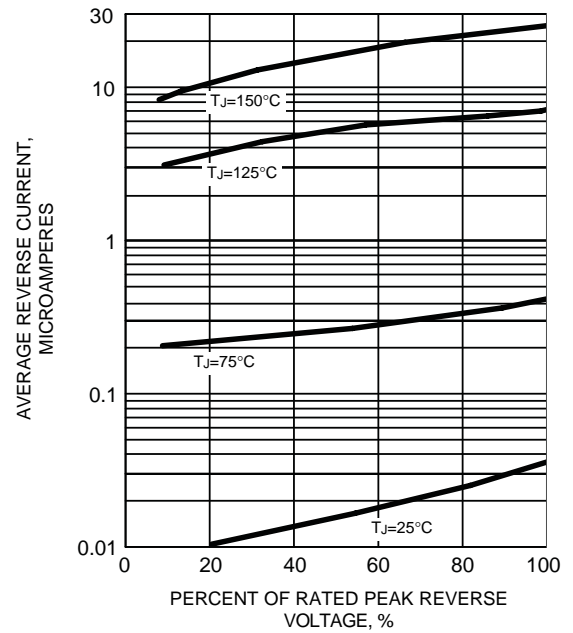


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

