

# 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

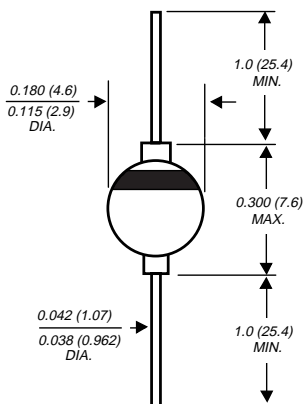


### MECHANICAL DATA

**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	$V_{RRM}$	50	100	200	400	500	600	Volts
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	350	420	Volts
*Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	500	600	Volts
*Minimum reverse breakdown voltage at 50 $\mu$ A	$V_{BR}$	55	110	220	440	550	660	Volts
*Maximum average forward rectified current 0.375" (9.5mm) lead lengths at $T_A=55^\circ\text{C}$	$I_{(AV)}$	3.0						Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) at $T_A=100^\circ\text{C}$	$I_{FSM}$	80.0						Amps
Maximum instantaneous forward voltage at 3.0A* 9.0A	$V_F$	1.10 1.50						Volts
Maximum DC reverse current at rated DC blocking voltage $*T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$ $*T_A=175^\circ\text{C}$	$I_R$	1.0 20.0 2.0						$\mu\text{A}$
*Maximum reverse recovery time (NOTE 1)	$t_{rr}$	150				250	400	ns
*Maximum junction capacitance (NOTE 2)	$C_J$	200	175	150	120	110	100	pF
Typical thermal resistance (NOTE3)	$R_{\theta JA}$	22.0						$^\circ\text{C/W}$
*Operating and storage temperature range	$T_J, T_{STG}$	-65 to +175						$^\circ\text{C}$

#### NOTES:

(1) Reverse recovery test conditions:  $I_F=0.5\text{A}$ ,  $I_R= 1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$

(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

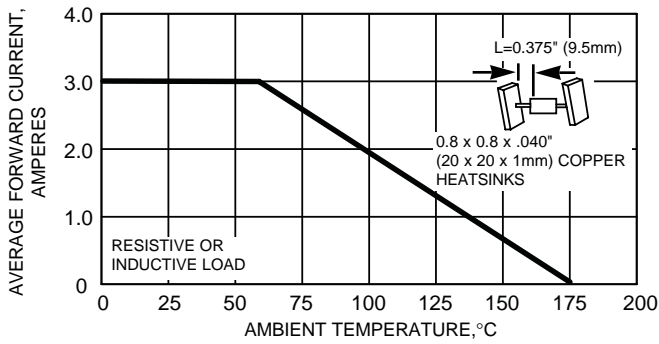


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

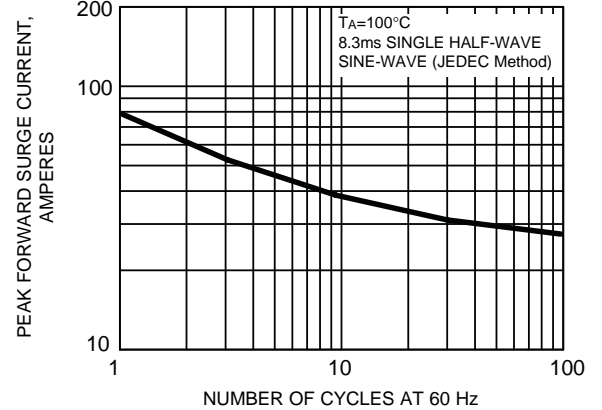


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

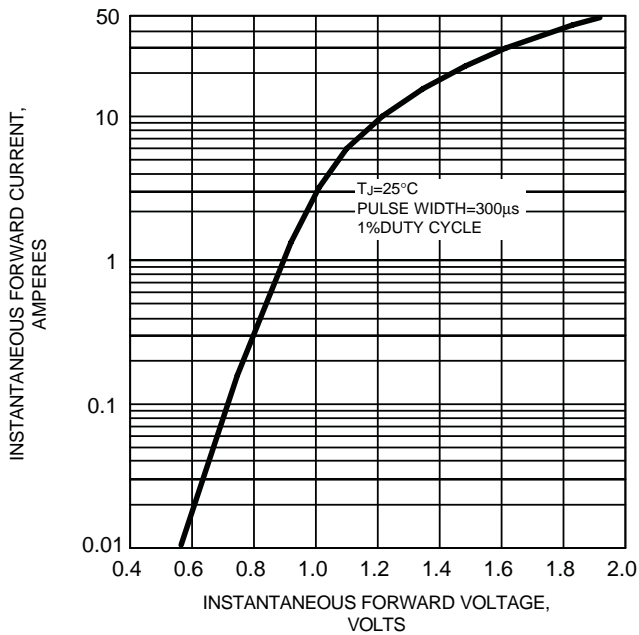


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

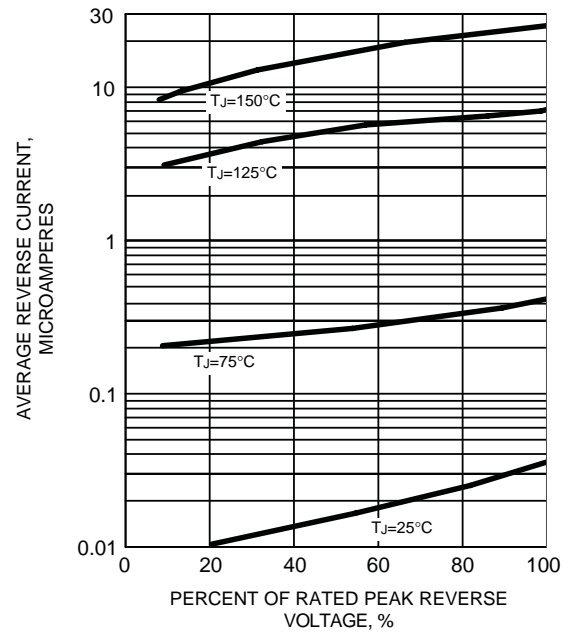


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

