

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

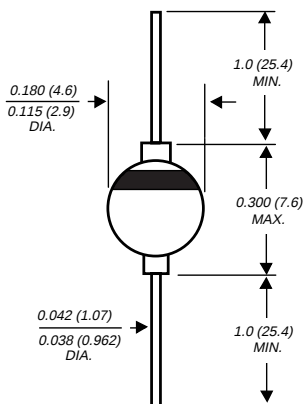
Terminals: Solder plated axial leads, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Mounting Position: Any

Weight: 0.037 ounce, 1.04 grams

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 μ 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						μA
*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

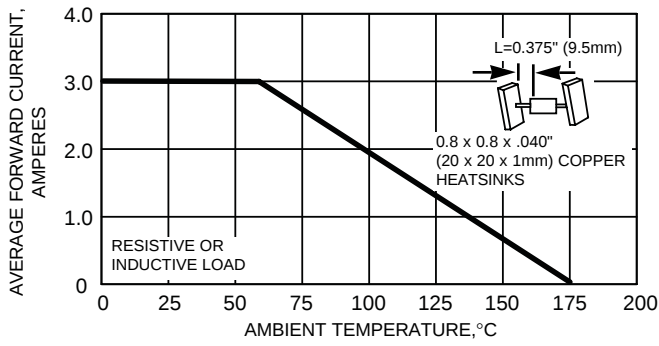


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

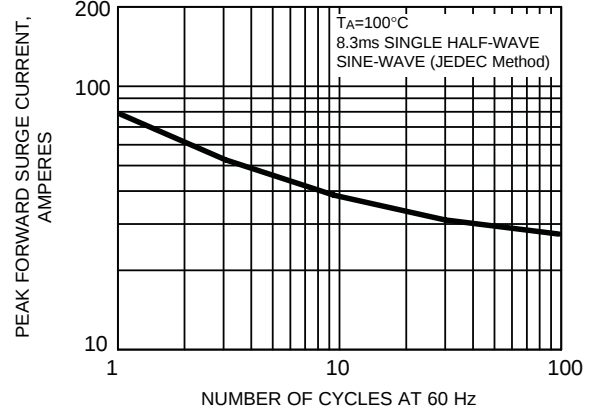


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

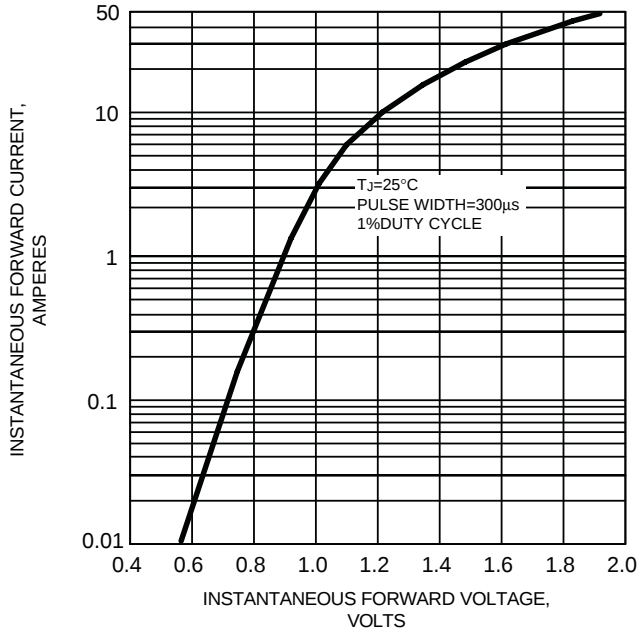


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

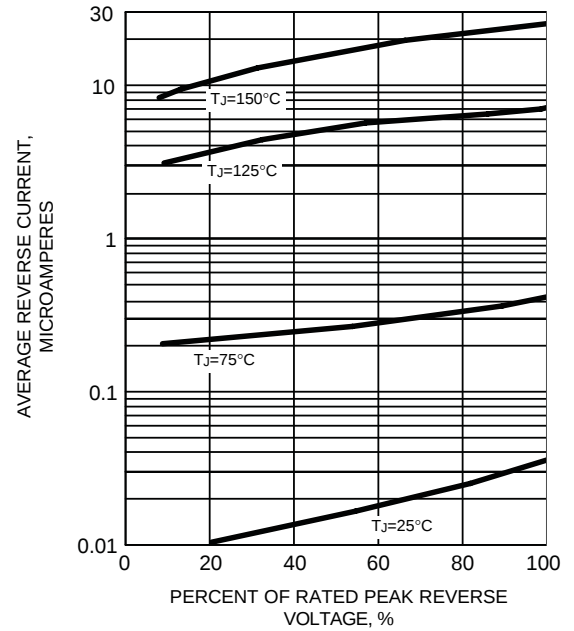


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

