Silicon Diode

1N5419

Fast Switching Rectifier

500V / 3A

DATASHEET

OEM – General Semiconductor

Source: General Semiconductor Databook 1998

Datasheet Rev. 1.3 – 05/19 – data without warranty / liability

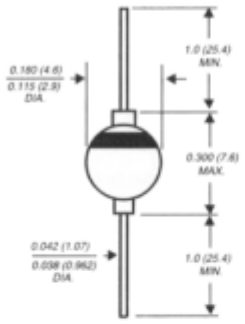
1N5415 THRU 1N5420

GLASS PASSIVATED FAST SWITCHING RECTIFIER

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

PATENTED*

Case Style G4



Dimensions in inches and (millimeters)

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

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

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 50μA	V_{BR}	55	110	220	440	550	660	Volts
*Maximum average forward rectified current 0.375" (9.5mm) lead lengths at T_A=55°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°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°C T_A=100°C *T_A=175°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						°C/W
*Operating and storage temperature range	T_J,T_{STG}	-65 to +175						°C

NOTES:
(1) Reverse recovery test conditions: Ir=0.5A, In= 1.0A, Irr=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

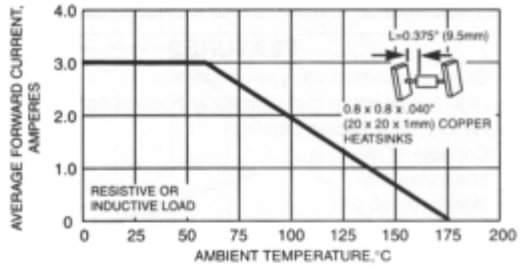


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

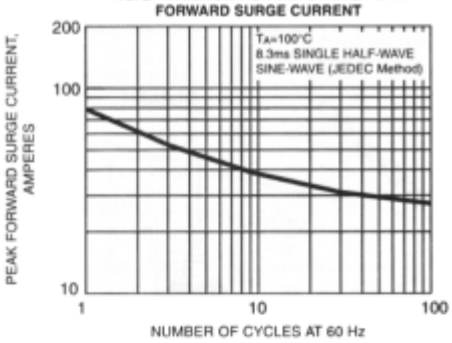


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

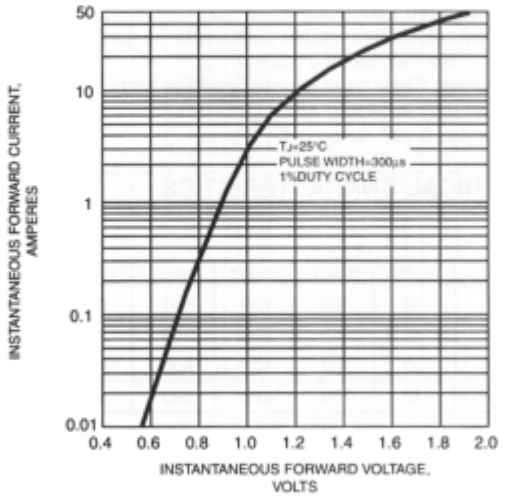


FIG. 4 -TYPICAL REVERSE CHARACTERISTICS

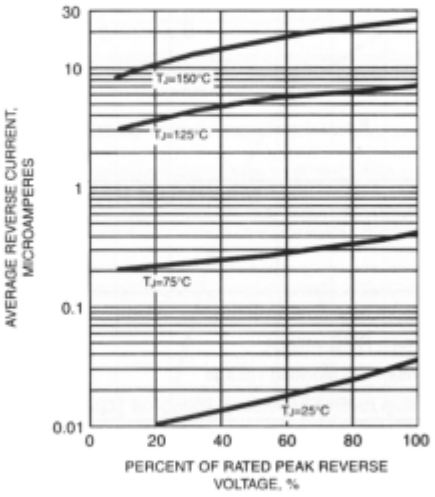


FIG. 5 - TYPICAL JUNCTION CAPACITANCE