

Silicon Diode

1N5416

Fast Switching Rectifier

100V / 3A

DATASHEET

OEM – General Semiconductor

Source: General Semiconductor Databook 1998

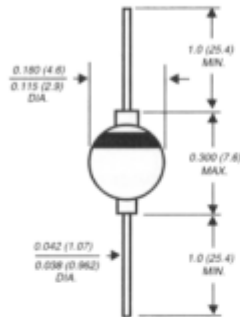
1N5415 THRU 1N5420

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	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 (NOTE 3)	R _{θJA}	22.0						°C/W
*Operating and storage temperature range	T _J , T _{STG}	-65 to +175						°C

NOTES:

- (1) Reverse recovery test conditions: I_R=0.5A, I_F= 1.0A, I_{rr}=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

