

Silicon Diode

1N5617

Fast Switching Rectifier

400V / 1A

DATASHEET

OEM – General Semiconductor

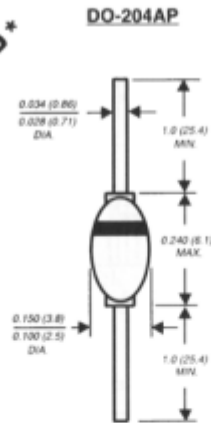
Source: General Semiconductor Databook 1998

1N5615 THRU 1N5623

GLASS PASSIVATED FAST SWITCHING RECTIFIER

Reverse Voltage - 200 to 1000 Volts Forward Current - 1.0 Ampere

PATENTED *



Dimensions in inches and (millimeters)

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

FEATURES

- ♦ High temperature metallurgically bonded construction
- ♦ Hermetically sealed case
- ♦ Glass passivated cavity-free junction
- ♦ 1.0 Ampere operation at $T_A=55^\circ\text{C}$ with no thermal runaway
- ♦ Typical I_R less than $0.1\mu\text{A}$
- ♦ Capable of meeting environmental standards of MIL-S-19500
- ♦ Fast switching for high efficiency
- ♦ High temperature soldering guaranteed: $350^\circ\text{C}/10$ seconds, $0.375"$ (9.5mm) lead length, 5 lbs. (2.3kg) tension

MECHANICAL DATA

Case: JEDEC DO-204AP 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: 0.02 ounce, 0.56 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	1N5615	1N5617	1N5619	1N5621	1N5623	UNITS
*Maximum repetitive peak reverse voltage	V_{RRM}	200	400	600	800	1000	Volts
Maximum RMS voltage	V_{RMS}	140	280	420	560	700	Volts
*Maximum DC blocking voltage	V_{DC}	200	400	600	800	1000	Volts
*Minimum reverse breakdown voltage at $50\mu\text{A}$	$V_{(BR)}$	220	440	660	880	1100	Volts
*Maximum average forward rectified current $0.375"$ (9.5mm) lead length at $T_A=55^\circ\text{C}$	$I_{(AV)}$	1.0					Amp
*Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	50.0					Amps
*Maximum instantaneous forward voltage at 1.0A	V_F	1.2					Volts
*Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$ $T_A=200^\circ\text{C}$	I_R	0.5 25.0 1500.0					μA
*Maximum reverse recovery time (NOTE 1)	t_{rr}	150	150	250	300	500	ns
*Maximum junction capacitance (NOTE 2)	C_J	45	35	25	20	15	pF
Typical thermal resistance (NOTE 3)	$R_{\theta JA}$	55.0					$^\circ\text{C}/\text{W}$
*Operating junction temperature range	T_J	-65 to +175					$^\circ\text{C}$
*Storage temperature range	T_{STG}	-65 to +200					$^\circ\text{C}$

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 Volts
- (3) Thermal resistance from junction to ambient at $0.375"$ (9.5mm) lead length, P.C.B. mounted
*JEDEC registered values

RATINGS AND CHARACTERISTIC CURVES 1N5615 THRU 1N5623

