

# Silicon Diode

## **1N5615**

Fast Switching Rectifier

200V / 1A

# DATASHEET

OEM – General Semiconductor

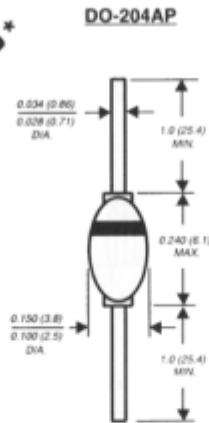
Source: General Semiconductor Databook 1998

# 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  $25^\circ\text{C}$  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					$\mu\text{A}$
*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**

