

Silicon Diode

1N5616

Medium Switching Rectifier

400V / 1A

DATASHEET

OEM – General Semiconductor

Source: General Semiconductor Databook 1998

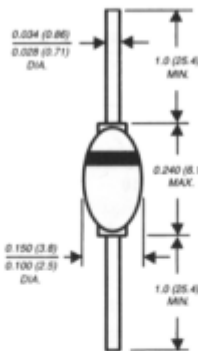
1N5614 THRU 1N5622

GLASS PASSIVATED MEDIUM-SWITCHING JUNCTION RECTIFIER

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

PATENTED*

DO-204AP



Dimensions in inches and (millimeters)

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

FEATURES

- High temperature metallurgically bonded construction
- 1.0 Ampere operation at $T_A = 55^\circ\text{C}$ with no thermal runaway
- Typical I_R less than $0.1\mu\text{A}$
- Hermetically sealed package
- Capable of meeting environmental standards of MIL-S-19500
- 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	1N5614	1N5616	1N5618	1N5620	1N5622	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	I_R	$T_A=25^\circ\text{C}$: 0.5 $T_A=100^\circ\text{C}$: 25.0 $T_A=200^\circ\text{C}$: 1500					μA
* Maximum reverse recovery time (NOTE 1)	t_{rr}	2.0					μs
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 1N5614 THRU 1N5622

