


T.01-13

**1N5614 THRU 1N5622**

MINIATURE GLASS PASSIVATED JUNCTION MEDIUM SWITCHING RECTIFIER

**GENERAL INSTRUMENT**



**FEATURES**

- High temperature metallurgically bonded—no compression contacts as found in diode-constructed rectifiers
- Glass passivated junction in DO-204AP package.
- 1 ampere operation at  $T_A = 55^\circ\text{C}$  with no thermal runaway
- Typical  $I_R$  less than  $0.1 \mu\text{A}$
- Exceeds environmental standards of MIL-STD-19500
- Medium switching for high efficiency
- High temperature soldering guaranteed  $350^\circ\text{C}/10$  seconds/.375", (9.5mm) lead length at 5 lbs., (2.3kg) tension

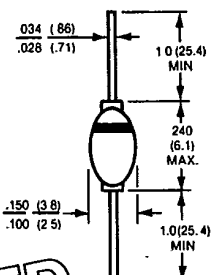
**MECHANICAL DATA**

Case: One piece glass, hermetically sealed  
 Terminals: Axial leads, solderable per MIL-STD-202, Method 208  
 Polarity: Color and denotes cathode  
 Mounting Position: Any  
 Weight: .02 ounce, .56 gram

**VOLTAGE RANGE**  
200 to 1000 Volts

**CURRENT**  
1.0 Ampere

**DO-204AP**



Dimensions in inches and (millimeters)

**PATENTED**  
 Braze lead assembly is covered by Patent No. 3,830,306 of 1978 and glass composition by Patent No. 3,752,701 of 1973

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Rating at  $25^\circ\text{C}$  ambient temperature unless otherwise specified.  
 Single phase, half wave, 60 Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

	1N5614	1N5616	1N5618	1N5620	1N5622	UNITS
* Maximum Recurrent Peak Reverse Voltage	200	400	600	800	1000	V
Maximum RMS Voltage	140	280	420	560	700	V
* Maximum DC Blocking Voltage	200	400	600	800	1000	V
* Minimum Avalanche Breakdown Voltage at $50 \mu\text{A}$	220	440	660	880	1100	V
Maximum Average Forward Rectified Current .375", (9.5mm) Lead Length at $T_A = 55^\circ\text{C}$	1.0					A
* Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	50.0					A
* Maximum Instantaneous Forward Voltage at 1.0A	1.2					V
* Maximum DC Reverse Current at Rated DC Blocking Voltage	0.5					$\mu\text{A}$
$T_A = 25^\circ\text{C}$	25.0					$\mu\text{A}$
$T_A = 100^\circ\text{C}$	1500					$\mu\text{A}$
$T_A = 200^\circ\text{C}$	1500					$\mu\text{A}$
* Maximum Reverse Recovery Time (Note 1)	2.0					$\mu\text{s}$
* Maximum Junction Capacitance (Note 2)	45	35	25	20	15	pF
* Operating Temperature Range, $T_J$	-65 to +175					$^\circ\text{C}$
* Storage Temperature Range, $T_{STG}$	-65 to +200					$^\circ\text{C}$

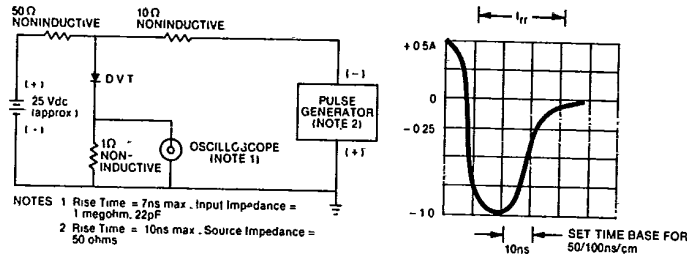
NOTES:  
 1. Reverse Recovery Test Conditions:  $I_F = 5\text{A}$ ,  $I_R = 1\text{A}$ ,  $I_{rr} = .25\text{A}$   
 2. Measured at 1 MHz and applied reverse voltage of 12 volts.

3. Available to Jan and Jan TX Military Specifications MIL-S-19500/427.  
 \* JEDEC Registered Value.

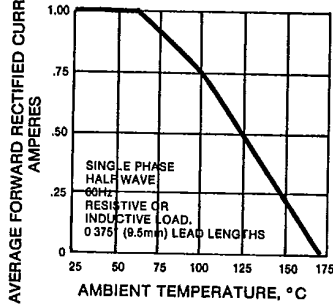
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**RATING AND CHARACTERISTIC CURVES  
1N5614 THRU 1N5622 SERIES**

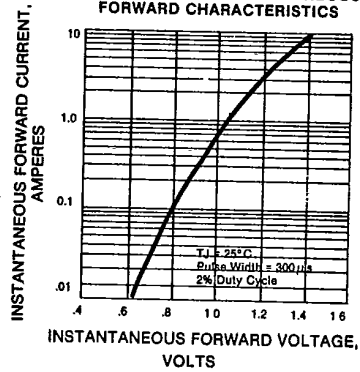
**FIG. 1 — REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM**



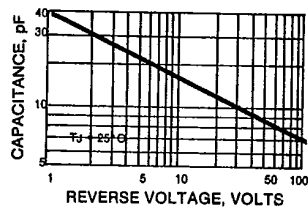
**FIG. 2 — FORWARD CURRENT DERATING CURVE**



**FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG. 4 — TYPICAL JUNCTION CAPACITANCE**



**FIG. 5 — PEAK FORWARD SURGE CURRENT**

