

- 1N3821A-1 THRU 1N3828A-1 AVAILABLE IN JAN, JANTX AND JANTXV  
PER MIL-PRF-19500/115
- 1 WATT ZENER DIODE
- DOUBLE PLUG CONSTRUCTION
- METALLURGICALLY BONDED

1N3821A thru 1N3828A  
and  
1N3821A-1 thru 1N3828A-1

## MAXIMUM RATINGS

Operating Temperature: -65°C to +175°C  
 Storage Temperature: -65°C to +175°C  
 DC Power Dissipation: 1 watt @  $T_L = 95^\circ\text{C}$   
 Power Derating: 12.5 mW / °C above  $T_L = 95^\circ\text{C}$   
 Forward Voltage @ 200mA = 1.2 volts maximum

## ELECTRICAL CHARACTERISTICS @ 25°C

CDI TYPE NUMBER (NOTE 1)	NOMINAL ZENER VOLTAGE $V_Z @ 1Z_T$ (NOTE 3)	ZENER TEST CURRENT $1Z_T$	MAXIMUM ZENER IMPEDANCE		MAX. DC ZENER CURRENT $1Z_M$	MAX. REVERSE LEAKAGE CURRENT $I_R @ V_R$	
			$Z_{ZT} @ 1Z_T$	$Z_{ZK} @ 1Z_K=1\text{mA}$ (NOTE 2)		$\mu\text{A}$	VOLTS
	VOLTS	mA	OHMS	OHMS	mA	$\mu\text{A}$	VOLTS
1N3821	3.3	76	10	400	276	100	1
1N3821A	3.3	76	10	400	276	100	1
1N3822	3.6	69	10	400	252	75	1
1N3822A	3.6	69	10	400	252	75	1
1N3823	3.9	64	9	400	238	25	1
1N3823A	3.9	64	9	400	238	25	1
1N3824	4.3	58	9	400	213	5	1
1N3824A	4.3	58	9	400	213	5	1
1N3825	4.7	53	8	500	194	5	1
1N3825A	4.7	53	8	500	194	5	1
1N3826	5.1	49	7	550	178	3	1
1N3826A	5.1	49	7	550	178	3	1
1N3827	5.6	45	5	600	162	3	2
1N3827A	5.6	45	5	600	162	3	2
1N3828	6.2	41	2	700	146	3	3
1N3828A	6.2	41	2	700	146	3	3

**NOTE 1** No suffix =  $\pm 10\%$  tolerance on nominal Zener voltage, suffix "A" signifies  $\pm 5\%$ , suffix "C" signifies  $\pm 2\%$ , suffix "D" signifies  $\pm 1\%$ .

**NOTE 2** Zener impedance is derived by superimposing on  $1Z_T$  A 60Hz rms a.c. current equal to 10% of  $1Z_T$ .

**NOTE 3** Zener voltage is measured with the device junction in thermal equilibrium at an ambient temperature of  $25^\circ\text{C} \pm 3^\circ\text{C}$ .

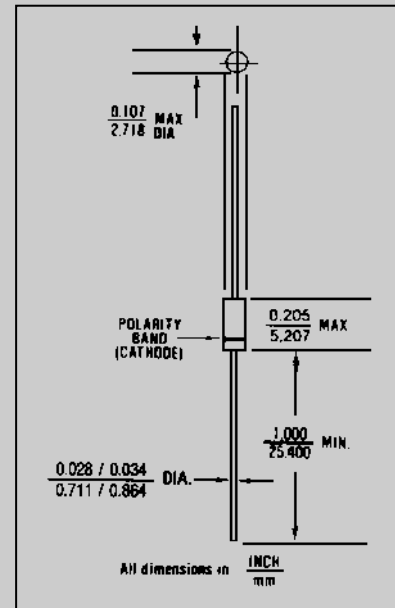


FIGURE 1

## DESIGN DATA

**CASE:** Hermetically sealed glass case, DO41.

**LEAD MATERIAL:** Copper clad steel

**LEAD FINISH:** Tin / Lead

**THERMAL RESISTANCE:** ( $R_{\theta JEC}$ ): 80 °C/W maximum at  $L = .375$  inch

**THERMAL IMPEDANCE:** ( $Z_{\theta JX}$ ): 15 °C/W maximum

**POLARITY:** Diode to be operated with the banded (cathode) end positive.

**MOUNTING POSITION:** Any.

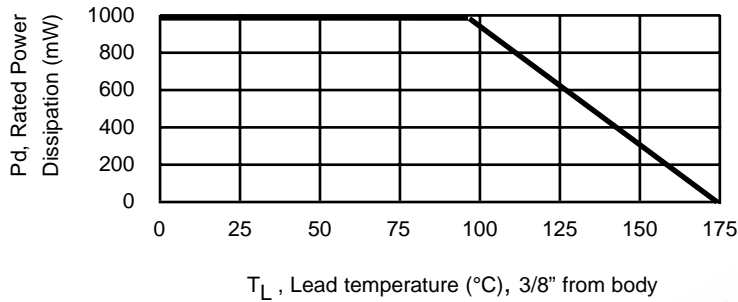


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# 1N3821A thru 1N3828A and 1N3821A-1 thru 1N3828A-1

FIGURE 2



T<sub>L</sub>, Lead temperature (°C), 3/8" from body

POWER DERATING CURVE

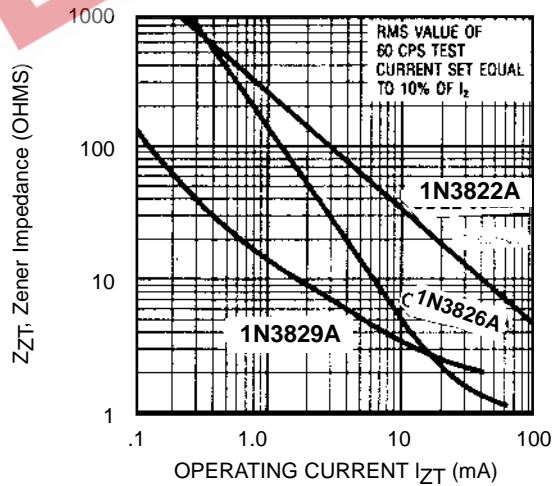


FIGURE 3  
ZENER IMPEDANCE VS. OPERATING CURRENT