

- 1N821, 1N823, 1N825, 1N827 AND 1N829 AVAILABLE IN JANTX AND JANTXV
- 1N821-1, 1N823-1, 1N825-1, 1N827-1 AND 1N829-1 AVAILABLE IN JANTX AND JANTXV
- 6.2 AND 6.55 VOLT NOMINAL ZENER VOLTAGES
- TEMPERATURE COMPENSATED ZENER DIODES
- DOUBLE PLUG CONSTRUCTION

1N821 thru 1N829A
and
1N821-1 thru 1N829-1

COMPENSATED DEVICES INC

MAXIMUM RATINGS

Operating Temperature: -65°C to $+175^{\circ}\text{C}$
Storage Temperature: -65°C to $+175^{\circ}\text{C}$
DC Power Dissipation: 500mW @ 50°C
Power Derating: 4 mW/ $^{\circ}\text{C}$ above 50°C

REVERSE LEAKAGE CURRENT

$I_R = 2\mu\text{A}$ @ 25°C & $V_R = 3\text{Vdc}$

ELECTRICAL CHARACTERISTICS @ 25°C , unless otherwise specified

JEDEC TYPE NUMBER	ZENER VOLTAGE V_Z @ I_{ZT}	ZENER TEST CURRENT I_{ZT}	MAXIMUM ZENER IMPEDANCE (Note 1) Z_{ZT}	VOLTAGE TEMPERATURE STABILITY ΔV_{ZT} -55° to $+100^{\circ}$ (Note 2)	EFFECTIVE TEMPERATURE COEFFICIENT
	VOLTS	mA	OHMS	mV	%/ $^{\circ}\text{C}$
1N821	5.9 - 6.5	7.5	15	96	0.01
1N821A	5.9 - 6.5	7.5	10	96	0.01
1N822†	5.9 - 6.5	7.5	15	96	0.01
1N823	5.9 - 6.5	7.5	15	48	0.005
1N823A	5.9 - 6.5	7.5	10	48	0.005
1N824†	5.9 - 6.5	7.5	15	48	0.005
1N825	5.9 - 6.5	7.5	15	19	0.002
1N825A	5.9 - 6.5	7.5	10	19	0.002
1N826	5.9 - 6.5	7.5	15	20	0.002
1N827	5.9 - 6.5	7.5	15	9	0.001
1N827A	5.9 - 6.5	7.5	10	9	0.001
1N828	6.2 - 6.9	7.5	15	10	0.001
1N829	5.9 - 6.5	7.5	15	5	0.0005
1N829A	5.9 - 6.5	7.5	10	5	0.0005

†Double Anode: Electrical Specifications Apply Under Both Bias Polarities.

NOTE 1 Zener impedance is derived by superimposing on I_{ZT} a 60Hz rms a.c. current equal to 10% of I_{ZT} .

NOTE 2 The maximum allowable change observed over the entire temperature range i.e., the diode voltage will not exceed the specified mV at any discrete temperature between the established limits, per JEDEC standard 5-A.

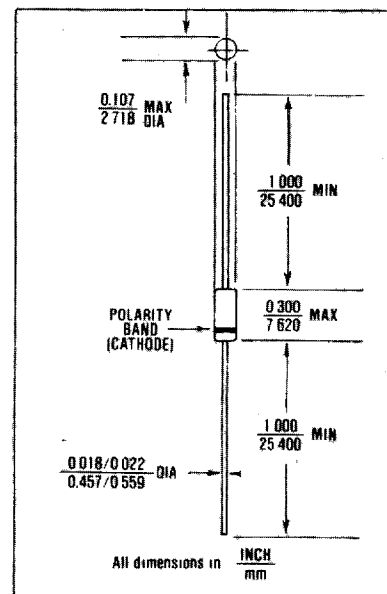


FIGURE 1

DESIGN DATA

CASE: Hermetically sealed glass case. DO-7 outline.

(Also Available in DO-35 package
See page 9 for Outline Drawing)

LEAD MATERIAL: Copper clad steel.

LEAD FINISH: Tin/Lead

THERMAL RESISTANCE: $R_{\theta JA}$ at $3/8"$
Lead Spacing = 250°C/W maximum

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

WEIGHT: 0.2 grams.

MOUNTING POSITION: Any.



COMPENSATED DEVICES INCORPORATED

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1N821 thru 1N829A INCLUDING -1 VERSIONS

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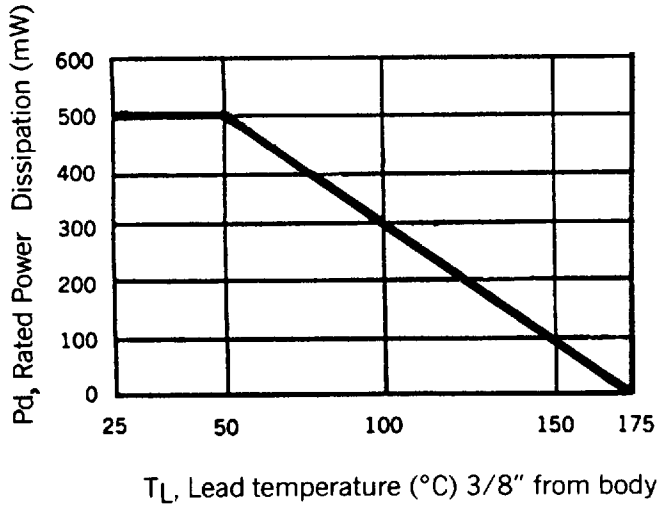


FIGURE 2
POWER DERATING CURVE

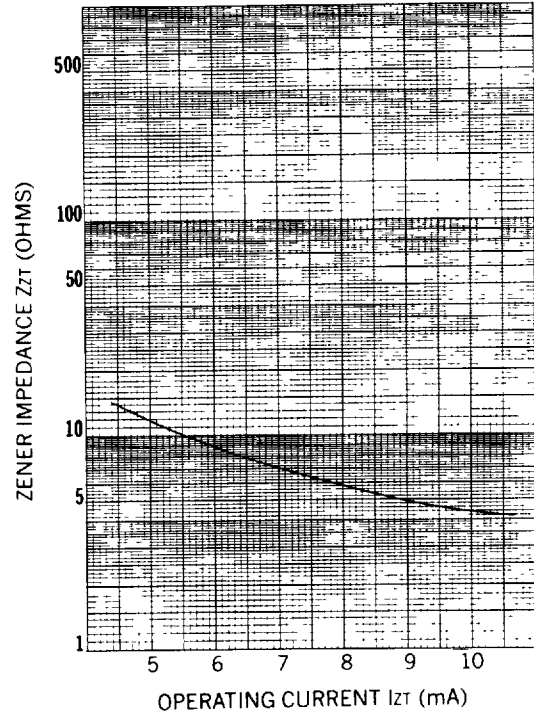


FIGURE 3
**TYPICAL CHANGE OF ZENER IMPEDANCE
WITH CHANGE IN OPERATING CURRENT**

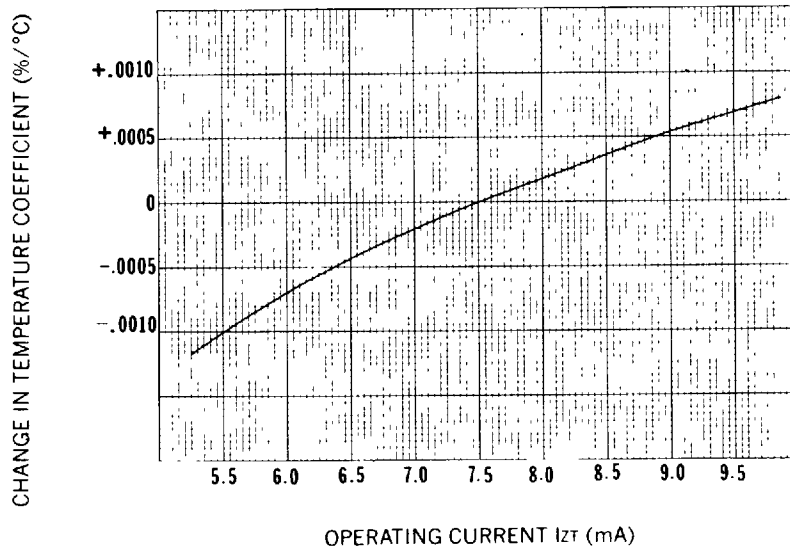


FIGURE 4
**TYPICAL CHANGE OF TEMPERATURE COEFFICIENT
WITH CHANGE IN OPERATING CURRENT**