

- 1N821-1,1N823-1,1N825-1,1N827-1 AND 1N829-1 AVAILABLE IN JAN, JANTX, JANTXV AND JANS PER MIL-PRF-19500/159
- TEMPERATURE COMPENSATED ZENER REFERENCE DIODES
- METALLURGICALLY BONDED
- DOUBLE PLUG CONSTRUCTION

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

MAXIMUM RATINGS

Operating Temperature: -65°C to +175°C
Storage Temperature: -65°C to +175°C
DC Power Dissipation: 500mW @ +50°C
Power Derating: 4 mW / °C above +50°C

REVERSE LEAKAGE CURRENT

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

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° (Note 2) | EFFECTIVE TEMPERATURE COEFFICIENT |
|----------------------------|------------------------------------|--------------------------------------|---|---|---|
| | VOLTS | mA | OHMS | mV | % / °C |
| 1N821 1N821A 1N822 † | 5.9—6.5 | 7.5 | 15 | 96 | 0.01 |
| 1N823 1N823A 1N824 † | 5.9—6.5 | 7.5 | 15 | 48 | 0.005 |
| 1N825 1N825A 1N826 | 5.9—6.5 | 7.5 | 15 | 19 | 0.002 |
| | 5.9—6.5 | 7.5 | 10 | 19 | 0.002 |
| | 6.2—6.9 | 7.5 | 15 | 20 | 0.002 |
| 1N827 1N827A 1N828 | 5.9—6.5 | 7.5 | 15 | 9 | 0.001 |
| | 5.9—6.5 | 7.5 | 10 | 9 | 0.001 |
| | 6.2—6.9 | 7.5 | 15 | 10 | 0.001 |
| 1N829 1N829A | 5.9—6.5 | 7.5 | 15 | 5 | 0.0005 |
| | 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 No. 5.

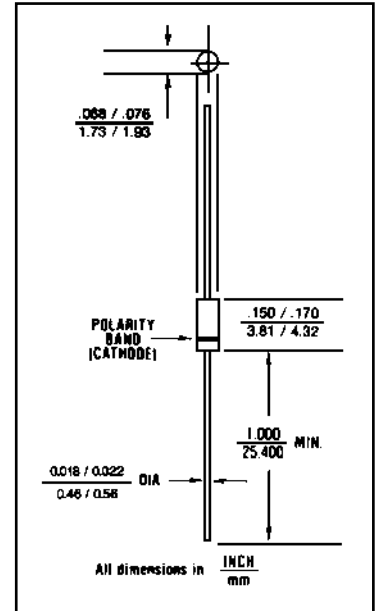


FIGURE 1

DESIGN DATA

CASE: Hermetically sealed glass case. DO – 35 outline.

LEAD MATERIAL: Copper clad steel.

LEAD FINISH: Tin / Lead

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

MOUNTING POSITION: Any.



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1N821 thru 1N829A

INCLUDING -1 VERSIONS

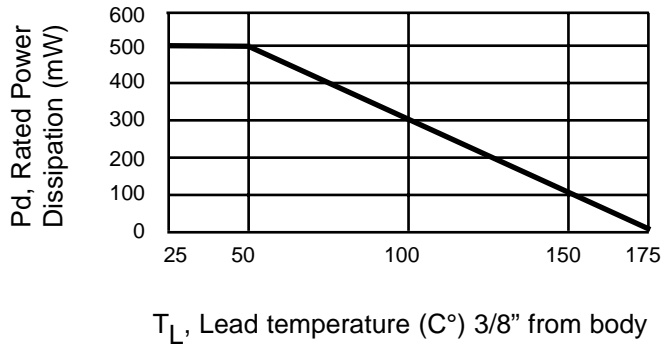


FIGURE 2
POWER DERATING CURVE

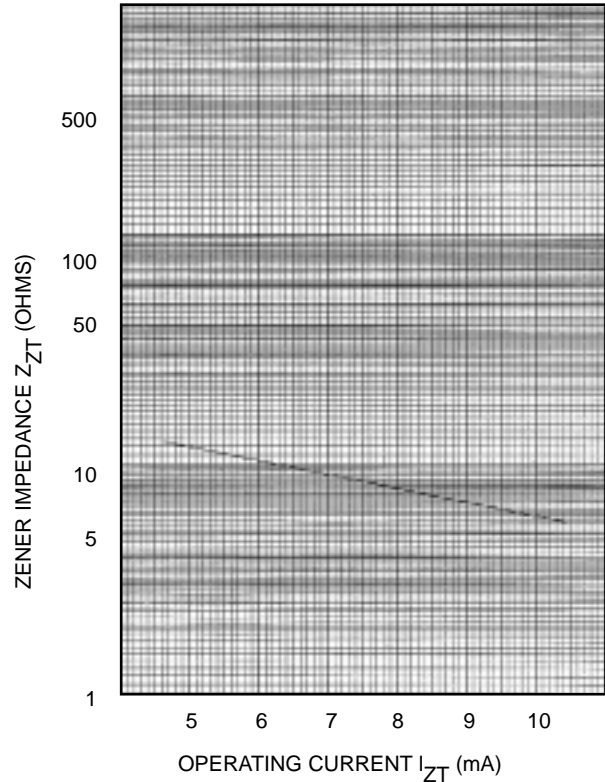


FIGURE 3
ZENER IMPEDANCE
VS.
OPERATING CURRENT

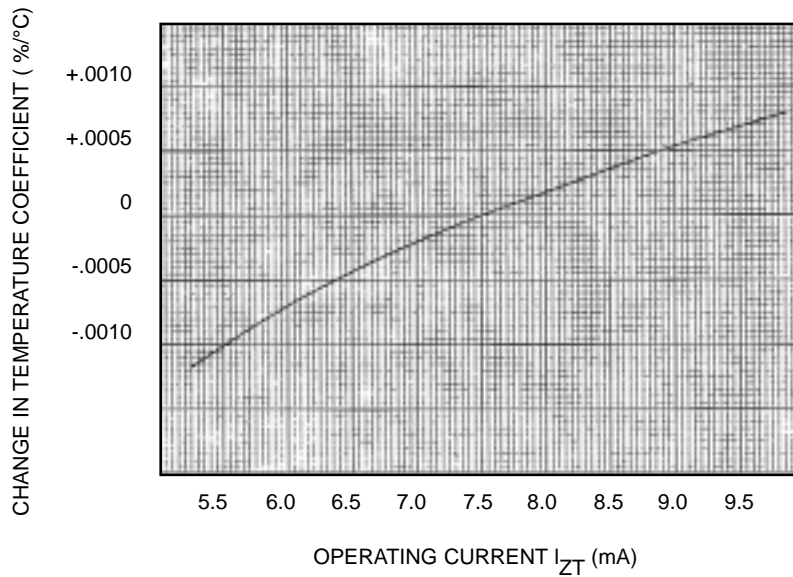


FIGURE 4
TYPICAL CHANGE OF TEMPERATURE
COEFFICIENT WITH CHANGE IN
OPERATING CURRENT