

# Temperature Compensated Zener Reference Diode Series



## Features

- 1N821-1, 1N823-1, 1N825-1, 1N827-1 and 1N829-1 available in JAN, JANTX, JANTXV, JANS
- Metallurgically Bonded, Double Plug Construction

## Maximum Ratings

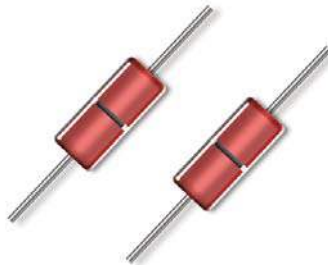
Operating & Storage Temperature: -65°C to +175°C

DC Power Dissipation: 500mW @ +50°C

Power Derating: 4 mW / °C above +50°C

## REVERSE LEAKAGE CURRENT

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



## Electrical Specifications @ +25 °C (Unless Otherwise Specified)

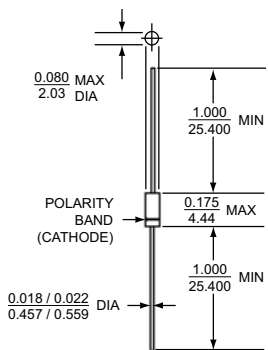
| JEDEC TYPE Number | Normal Zener Voltage $V_Z @ I_{ZT}$ | Zener Test Current $I_{ZT}$ | Maximum Zener Impedance (Note 1) $Z_{ZT}$ | Voltage Temperature Stability $^3V_{ZT}$ -55° to +100°C (Note 2) | Effective Temperature Coefficient |
|-------------------|-------------------------------------|-----------------------------|---|--|-----------------------------------|
| (Note 1)          | Volts                               | mA                          | Ohms                                      | mV   | %/°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             | 6.2–6.9                             | 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 No. 5.

## Outline Drawing



All dimensions in INCH mm

### LEADED DESIGN DATA

CASE: Hermetically sealed, DO – 35

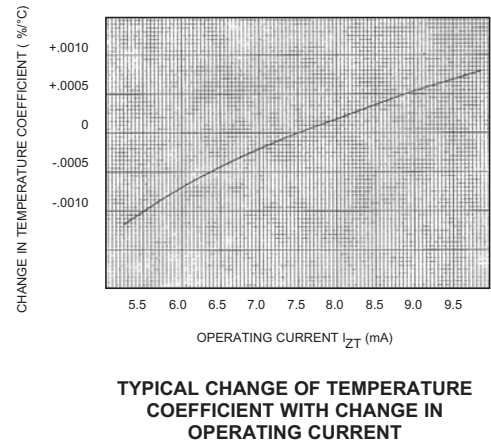
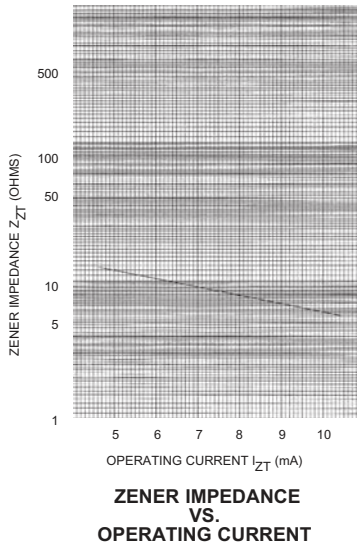
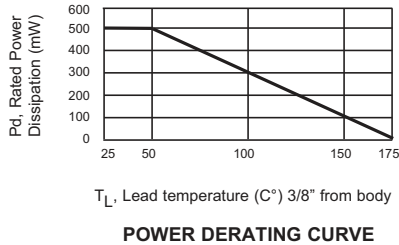
LEAD MATERIAL: Copper clad steel

LEAD FINISH: Tin / Lead

POLARITY: Cathode end is banded.

MOUNTING POSITION: Any





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