

- 19.2 VOLT NOMINAL ZENER VOLTAGE  $\pm 5\%$
- TEMPERATURE COMPENSATED ZENER REFERENCE DIODES
- LOW NOISE
- METALLURGICALLY BONDED
- DOUBLE PLUG CONSTRUCTION

1N4916  
thru  
1N4932A

#### 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

$I_R = 15 \mu A$  @ 25°C &  $V_R = 12V_{dc}$

ELECTRICAL CHARACTERISTICS @ 25°C, unless otherwise specified.

| JEDEC<br>TYPE<br>NUMBER | TEST<br>CURRENT<br>$I_{ZT}$<br>(Note 3) | VOLTAGE<br>TEMPERATURE<br>STABILITY<br>$\Delta V_{ZT}$<br>(Note 2) | TEMPERATURE<br>RANGE | EFFECTIVE<br>TEMPERATURE<br>COEFFICIENT | MAXIMUM<br>DYNAMIC<br>IMPEDANCE<br>$Z_{ZT}$<br>(Note 1) | MAXIMUM<br>NOISE<br>DENSITY<br>$N_D$ |
|-------------------------|-----------------------------------------|--------------------------------------------------------------------|----------------------|-----------------------------------------|---------------------------------------------------------|--------------------------------------|
|                         | mA                                      | mV                                                                 | °C                   | %/°C                                    | OHMS                                                    | $\mu V \sqrt{Hz}$                    |
| 1N4916                  | 0.5                                     | 144                                                                | +25 to +100          | 0.01                                    | 600                                                     | 1.0                                  |
| 1N4916A                 | 0.5                                     | 298                                                                | -55 to +100          | 0.01                                    | 600                                                     | 1.0                                  |
| 1N4917                  | 0.5                                     | 72                                                                 | +25 to +100          | 0.005                                   | 600                                                     | 1.0                                  |
| 1N4917A                 | 0.5                                     | 149                                                                | -55 to +100          | 0.005                                   | 600                                                     | 1.0                                  |
| 1N4918                  | 0.5                                     | 29                                                                 | +25 to +100          | 0.002                                   | 600                                                     | 1.0                                  |
| 1N4918A                 | 0.5                                     | 60                                                                 | -55 to +100          | 0.002                                   | 600                                                     | 1.0                                  |
| 1N4919                  | 1.0                                     | 144                                                                | +25 to +100          | 0.01                                    | 300                                                     | 0.5                                  |
| 1N4919A                 | 1.0                                     | 298                                                                | -55 to +100          | 0.01                                    | 300                                                     | 0.5                                  |
| 1N4920                  | 1.0                                     | 72                                                                 | +25 to +100          | 0.005                                   | 300                                                     | 0.5                                  |
| 1N4920A                 | 1.0                                     | 149                                                                | -55 to +100          | 0.005                                   | 300                                                     | 0.5                                  |
| 1N4921                  | 1.0                                     | 29                                                                 | +25 to +100          | 0.002                                   | 300                                                     | 0.5                                  |
| 1N4921A                 | 1.0                                     | 60                                                                 | -55 to +100          | 0.002                                   | 300                                                     | 0.5                                  |
| 1N4922                  | 2.0                                     | 144                                                                | +25 to +100          | 0.01                                    | 150                                                     | 0.25                                 |
| 1N4922A                 | 2.0                                     | 298                                                                | -55 to +100          | 0.01                                    | 150                                                     | 0.25                                 |
| 1N4923                  | 2.0                                     | 72                                                                 | +25 to +100          | 0.005                                   | 150                                                     | 0.25                                 |
| 1N4923A                 | 2.0                                     | 149                                                                | -55 to +100          | 0.005                                   | 150                                                     | 0.25                                 |
| 1N4924                  | 2.0                                     | 29                                                                 | +25 to +100          | 0.002                                   | 150                                                     | 0.25                                 |
| 1N4924A                 | 2.0                                     | 60                                                                 | -55 to +100          | 0.002                                   | 150                                                     | 0.25                                 |
| 1N4925                  | 4.0                                     | 144                                                                | +25 to +100          | 0.01                                    | 75                                                      | 0.22                                 |
| 1N4925A                 | 4.0                                     | 298                                                                | -55 to +100          | 0.01                                    | 75                                                      | 0.22                                 |
| 1N4926                  | 4.0                                     | 72                                                                 | +25 to +100          | 0.005                                   | 75                                                      | 0.22                                 |
| 1N4926A                 | 4.0                                     | 149                                                                | -55 to +100          | 0.005                                   | 75                                                      | 0.22                                 |
| 1N4927                  | 4.0                                     | 29                                                                 | +25 to +100          | 0.002                                   | 75                                                      | 0.22                                 |
| 1N4927A                 | 4.0                                     | 60                                                                 | -55 to +100          | 0.002                                   | 75                                                      | 0.22                                 |
| 1N4928                  | 4.0                                     | 14                                                                 | +25 to +100          | 0.001                                   | 75                                                      | 0.22                                 |
| 1N4928A                 | 4.0                                     | 30                                                                 | -55 to +100          | 0.001                                   | 75                                                      | 0.22                                 |
| 1N4929                  | 7.5                                     | 144                                                                | +25 to +100          | 0.01                                    | 36                                                      | 0.20                                 |
| 1N4929A                 | 7.5                                     | 298                                                                | -55 to +100          | 0.01                                    | 36                                                      | 0.20                                 |
| 1N4930                  | 7.5                                     | 72                                                                 | +25 to +100          | 0.005                                   | 36                                                      | 0.20                                 |
| 1N4930A                 | 7.5                                     | 149                                                                | -55 to +100          | 0.005                                   | 36                                                      | 0.20                                 |
| 1N4931                  | 7.5                                     | 29                                                                 | +25 to +100          | 0.002                                   | 36                                                      | 0.20                                 |
| 1N4931A                 | 7.5                                     | 60                                                                 | -55 to +100          | 0.002                                   | 36                                                      | 0.20                                 |
| 1N4932                  | 7.5                                     | 14                                                                 | +25 to +100          | 0.001                                   | 36                                                      | 0.20                                 |
| 1N4932A                 | 7.5                                     | 30                                                                 | -55 to +100          | 0.001                                   | 36                                                      | 0.20                                 |

**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.

**NOTE 3** Zener voltage range equals 19.2 volts  $\pm 5\%$ .

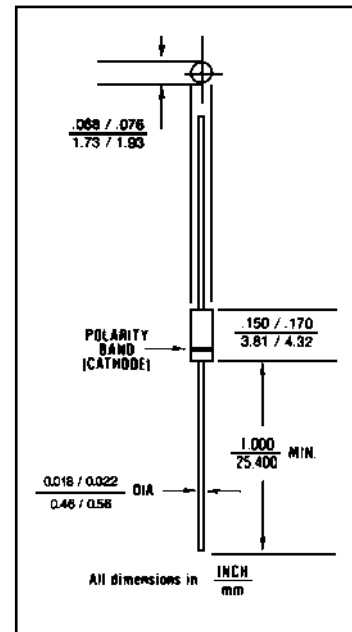


FIGURE 1

#### 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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# 1N4916 thru 1N4932A

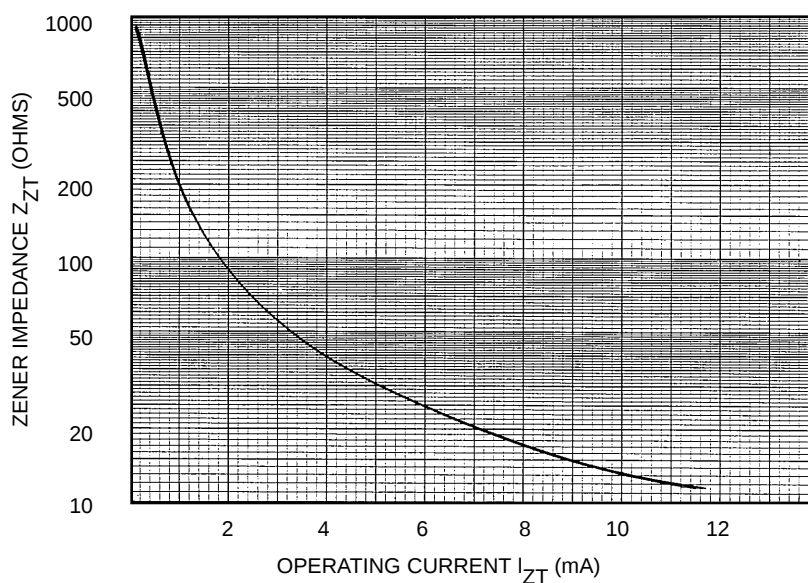


FIGURE 2

## ZENER IMPEDANCE VS. OPERATING CURRENT

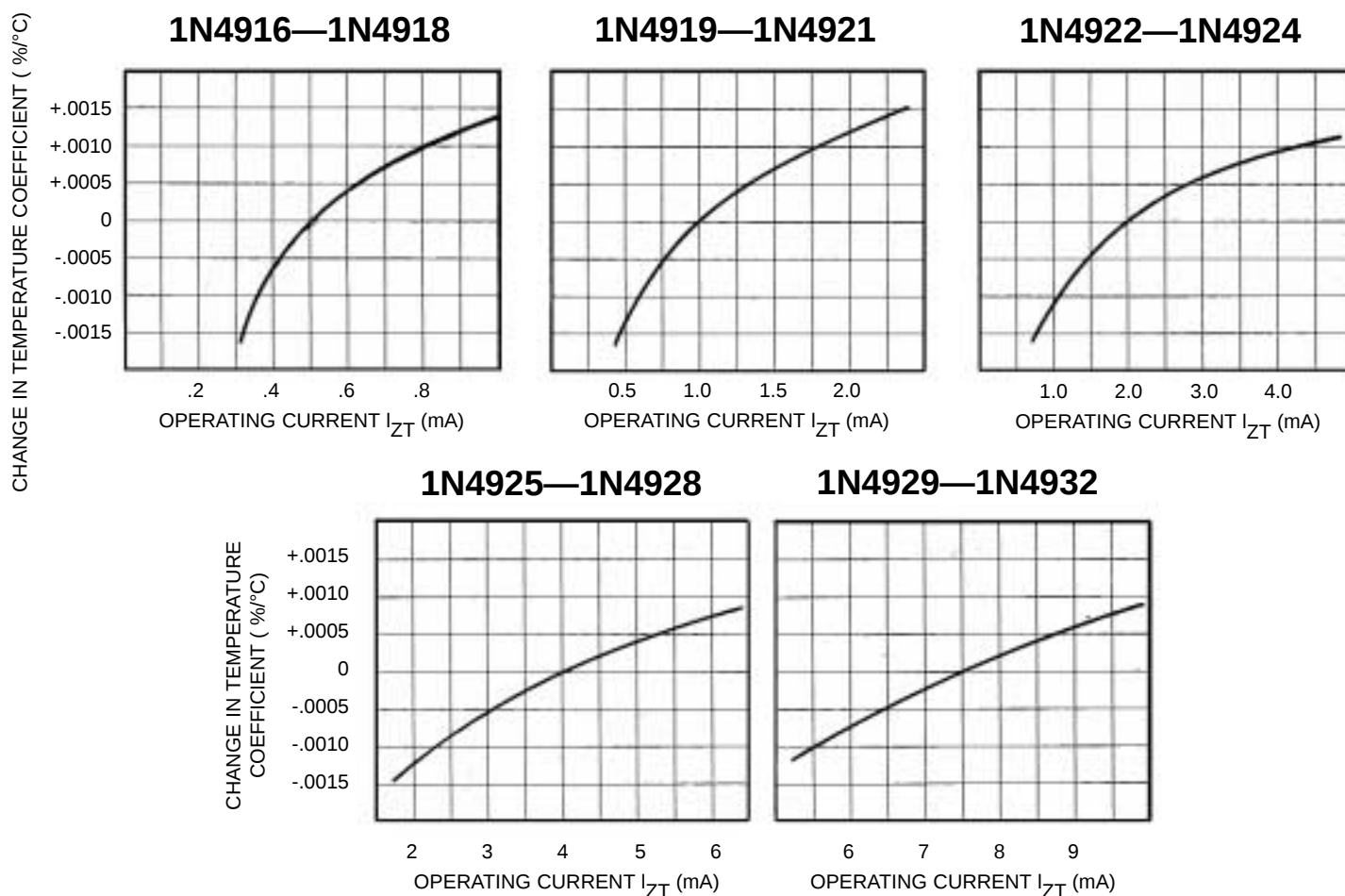


FIGURE 3

## TYPICAL CHANGE OF TEMPERATURE COEFFICIENT WITH CHANGE IN OPERATING CURRENT