

# Temperature Compensated Zener Reference Diode Series



1N4565A thru 1N4584A, 1N4565A-1 thru 1N4584A-1

## Features

- Available in JAN, JANTX, JANTXV and JANS per MIL-PRF9500/452
- 6.4 Volt Nominal Zener Voltage  $\pm 5\%$
- Metallurgically Bonded

## Maximum Ratings

Operating & Storage Temperature:  $-65^{\circ}\text{C}$  to  $+175^{\circ}\text{C}$

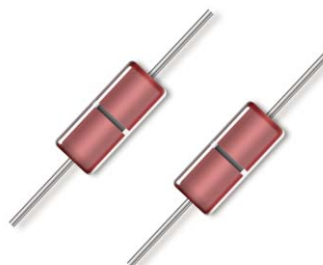
DC Power Dissipation: 500 mW @  $+50^{\circ}\text{C}$

Power Derating: 4 mW /  $^{\circ}\text{C}$  above  $+50^{\circ}\text{C}$

## REVERSE LEAKAGE CURRENT

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

## Electrical Specifications @ $+25^{\circ}\text{C}$ (Unless Otherwise Specified)



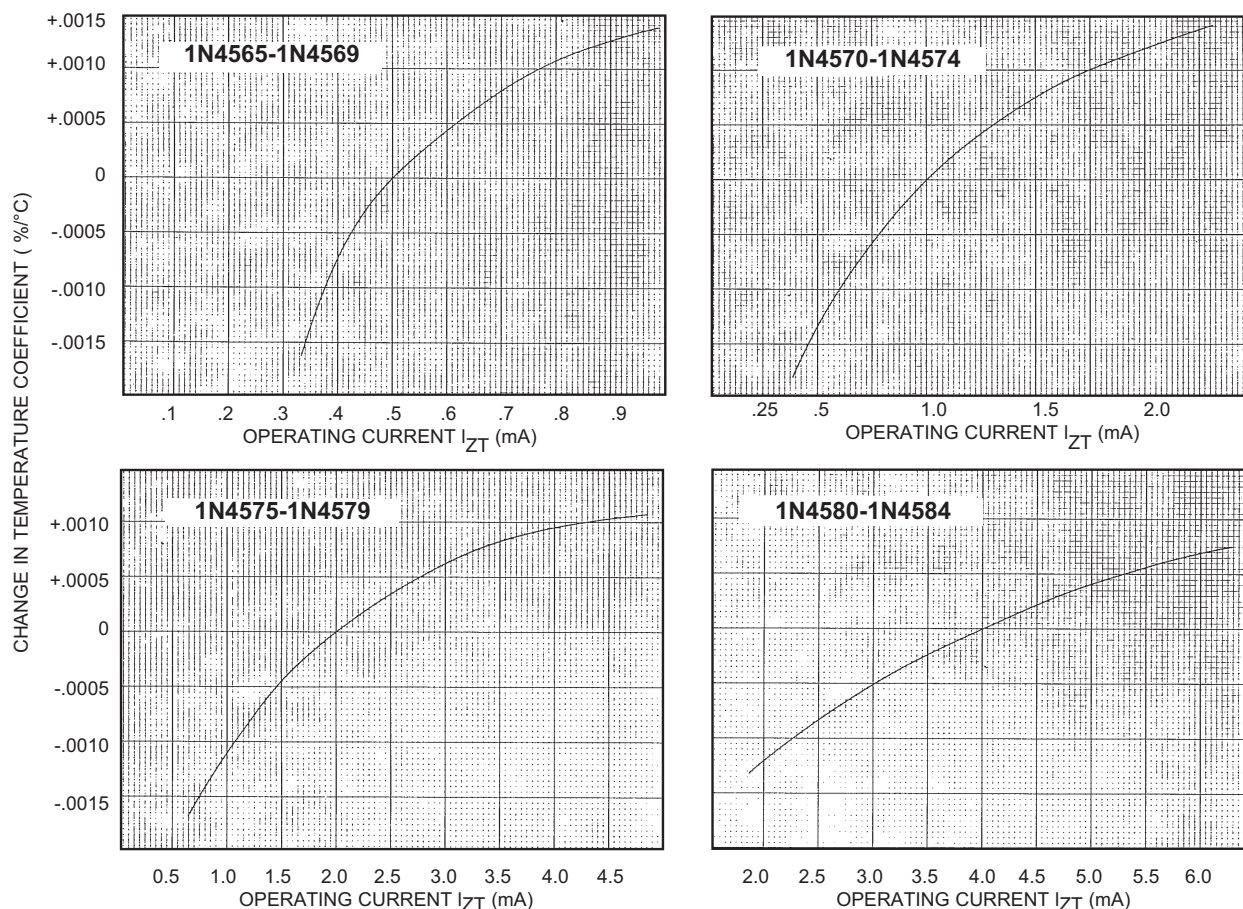
| JEDEC<br>Type<br>Number | Zener<br>Test<br>Current | Effective<br>Temperature<br>Coefficient | Voltage<br>Temperature<br>Stability<br>$\Delta V_{ZT}$ maximum<br>(Note 1) | Temperature<br>Range            | Maximum Dynamic<br>Zener<br>Impedance<br>(Note 2) |
|-------------------------|--------------------------|-----------------------------------------|----------------------------------------------------------------------------|---------------------------------|---------------------------------------------------|
|                         | mA                       | $\%/^{\circ}\text{C}$                   | mV                                                                         | $^{\circ}\text{C}$              | Ohms                                              |
| 1N4565                  | 0.5                      | 0.01                                    | 48                                                                         | 0 to $+75^{\circ}\text{C}$      | 200                                               |
| 1N4565A                 | 0.5                      | 0.01                                    | 100                                                                        | $-55$ to $+100^{\circ}\text{C}$ | 200                                               |
| 1N4566                  | 0.5                      | 0.005                                   | 24                                                                         | 0 to $+75^{\circ}\text{C}$      | 200                                               |
| 1N4566A                 | 0.5                      | 0.005                                   | 50                                                                         | $-55$ to $+100^{\circ}\text{C}$ | 200                                               |
| 1N4567                  | 0.5                      | 0.002                                   | 10                                                                         | 0 to $+75^{\circ}\text{C}$      | 200                                               |
| 1N4567A                 | 0.5                      | 0.002                                   | 20                                                                         | $-55$ to $+100^{\circ}\text{C}$ | 200                                               |
| 1N4568                  | 0.5                      | 0.001                                   | 5                                                                          | 0 to $+75^{\circ}\text{C}$      | 200                                               |
| 1N4568A                 | 0.5                      | 0.001                                   | 10                                                                         | $-55$ to $+100^{\circ}\text{C}$ | 200                                               |
| 1N4569                  | 0.5                      | 0.0005                                  | 2.5                                                                        | 0 to $+75^{\circ}\text{C}$      | 200                                               |
| 1N4569A                 | 0.5                      | 0.0005                                  | 5                                                                          | $-55$ to $+100^{\circ}\text{C}$ | 200                                               |
| 1N4570                  | 1.0                      | 0.01                                    | 48                                                                         | 0 to $+75^{\circ}\text{C}$      | 100                                               |
| 1N4570A                 | 1.0                      | 0.01                                    | 100                                                                        | $-55$ to $+100^{\circ}\text{C}$ | 100                                               |
| 1N4571                  | 1.0                      | 0.005                                   | 24                                                                         | 0 to $+75^{\circ}\text{C}$      | 100                                               |
| 1N4571A                 | 1.0                      | 0.005                                   | 50                                                                         | $-55$ to $+100^{\circ}\text{C}$ | 100                                               |
| 1N4572                  | 1.0                      | 0.002                                   | 10                                                                         | 0 to $+75^{\circ}\text{C}$      | 100                                               |
| 1N4572A                 | 1.0                      | 0.002                                   | 20                                                                         | $-55$ to $+100^{\circ}\text{C}$ | 100                                               |
| 1N4573                  | 1.0                      | 0.001                                   | 5                                                                          | 0 to $+75^{\circ}\text{C}$      | 100                                               |
| 1N4573A                 | 1.0                      | 0.001                                   | 10                                                                         | $-55$ to $+100^{\circ}\text{C}$ | 100                                               |
| 1N4574                  | 1.0                      | 0.0005                                  | 2.5                                                                        | 0 to $+75^{\circ}\text{C}$      | 100                                               |
| 1N4574A                 | 1.0                      | 0.0005                                  | 5                                                                          | $-55$ to $+100^{\circ}\text{C}$ | 100                                               |
| 1N4575                  | 2.0                      | 0.01                                    | 48                                                                         | 0 to $+75^{\circ}\text{C}$      | 50                                                |
| 1N4575A                 | 2.0                      | 0.01                                    | 100                                                                        | $-55$ to $+100^{\circ}\text{C}$ | 50                                                |
| 1N4576                  | 2.0                      | 0.005                                   | 24                                                                         | 0 to $+75^{\circ}\text{C}$      | 50                                                |
| 1N4576A                 | 2.0                      | 0.005                                   | 50                                                                         | $-55$ to $+100^{\circ}\text{C}$ | 50                                                |
| 1N4577                  | 2.0                      | 0.002                                   | 10                                                                         | 0 to $+75^{\circ}\text{C}$      | 50                                                |
| 1N4577A                 | 2.0                      | 0.002                                   | 20                                                                         | $-55$ to $+100^{\circ}\text{C}$ | 50                                                |
| 1N4578                  | 2.0                      | 0.001                                   | 5                                                                          | 0 to $+75^{\circ}\text{C}$      | 50                                                |
| 1N4578A                 | 2.0                      | 0.001                                   | 10                                                                         | $-55$ to $+100^{\circ}\text{C}$ | 50                                                |
| 1N4579                  | 2.0                      | 0.0005                                  | 2.5                                                                        | 0 to $+75^{\circ}\text{C}$      | 50                                                |
| 1N4579A                 | 2.0                      | 0.0005                                  | 5                                                                          | $-55$ to $+100^{\circ}\text{C}$ | 50                                                |
| 1N4580                  | 4.0                      | 0.01                                    | 48                                                                         | 0 to $+75^{\circ}\text{C}$      | 25                                                |
| 1N4580A                 | 4.0                      | 0.01                                    | 100                                                                        | $-55$ to $+100^{\circ}\text{C}$ | 25                                                |
| 1N4581                  | 4.0                      | 0.005                                   | 24                                                                         | 0 to $+75^{\circ}\text{C}$      | 25                                                |
| 1N4581A                 | 4.0                      | 0.005                                   | 50                                                                         | $-55$ to $+100^{\circ}\text{C}$ | 25                                                |
| 1N4582                  | 4.0                      | 0.002                                   | 10                                                                         | 0 to $+75^{\circ}\text{C}$      | 25                                                |
| 1N4582A                 | 4.0                      | 0.002                                   | 20                                                                         | $-55$ to $+100^{\circ}\text{C}$ | 25                                                |
| 1N4583                  | 4.0                      | 0.001                                   | 5                                                                          | 0 to $+75^{\circ}\text{C}$      | 25                                                |
| 1N4583A                 | 4.0                      | 0.001                                   | 10                                                                         | $-55$ to $+100^{\circ}\text{C}$ | 25                                                |
| 1N4584                  | 4.0                      | 0.0005                                  | 2.5                                                                        | 0 to $+75^{\circ}\text{C}$      | 25                                                |
| 1N4584A                 | 4.0                      | 0.0005                                  | 5                                                                          | $-55$ to $+100^{\circ}\text{C}$ | 25                                                |

NOTE 1: 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.

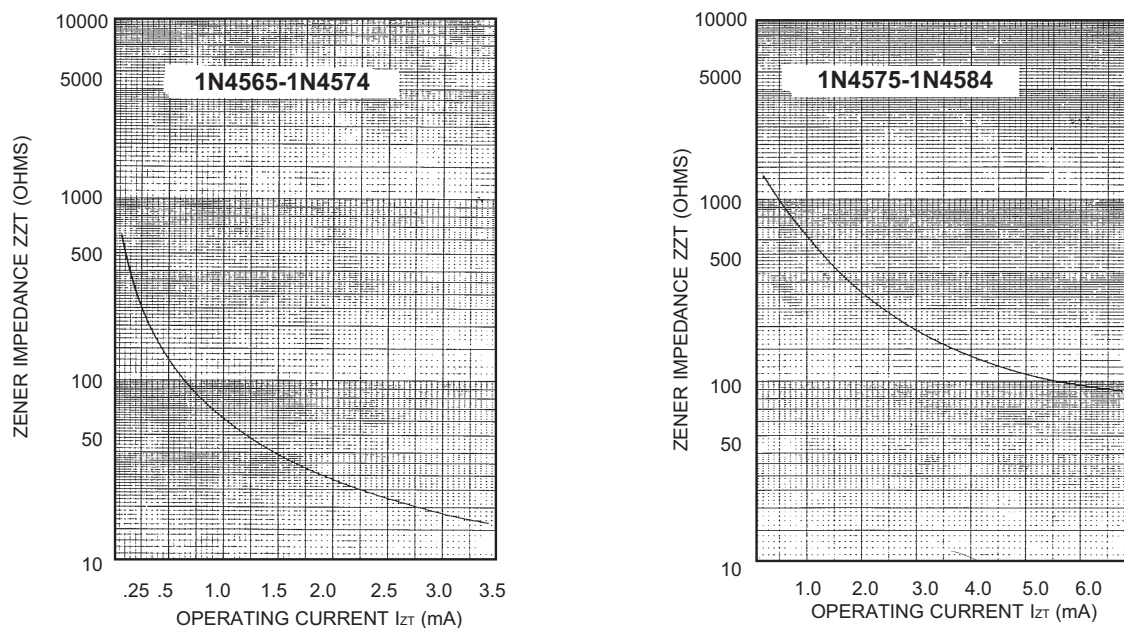
NOTE 2: Zener impedance is derived by superimposing on  $I_{ZT}$  A 60Hz rms a.c. current equal to 10% of  $I_{ZT}$ .



## Graphs

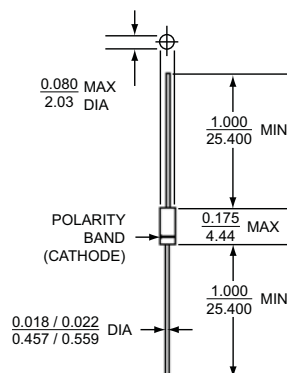


### TYPICAL CHANGE OF TEMPERATURE COEFFICIENT WITH CHANGE IN OPERATING CURRENT



### ZENER IMPEDANCE VS. OPERATING CURRENT

## Outline Drawing



All dimensions in  $\frac{\text{INCH}}{\text{mm}}$

### 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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