

DIGITRON SEMICONDUCTORS

1N4565(A)-1N4584(A)

6.4 VOLT TEMPERATURE COMPENSATED
ZENER REFERENCE DIODES

MAXIMUM RATINGS

| Characteristics | Value |
|------------------------------------|------------------------|
| Operating and storage temperatures | -65 to +175°C |
| DC power dissipation | 500mW @ 50°C |
| Power derating | 4mW/°C above 50°C |
| Solder temperature | 260°C for 10 s maximum |

$I_R = 2\mu A @ 25^\circ C$ and $V_R = 3V$

ELECTRICAL CHARACTERISTICS

| Part number (Note 1) | Zener test current (Note 3) I_{ZT} | Maximum voltage temperature coefficient | | | Maximum reverse current $I_R @ 3V$ | Maximum dynamic impedance (Note 2) $Z_{dT} @ I_{ZT}$ |
|-------------------------|--|---|-------------------|--------------|---------------------------------------|---|
| | mA | α_{VZ} $\pm\%/^\circ C$ | $\pm mV/^\circ C$ | Temp. range | μA | Ohms |
| 1N4565 | .5 | 0.01 | .64 | 0 to 75°C | 2.0 | 200 |
| 1N4565A | .5 | 0.01 | .64 | -55 to 100°C | 2.0 | 200 |
| 1N4566 | .5 | 0.005 | .32 | 0 to 75°C | 2.0 | 200 |
| 1N4566A | .5 | 0.005 | .32 | -55 to 100°C | 2.0 | 200 |
| 1N4567 | .5 | 0.002 | .13 | 0 to 75°C | 2.0 | 200 |
| 1N4567A | .5 | 0.002 | .13 | -55 to 100°C | 2.0 | 200 |
| 1N4568 | .5 | 0.001 | .06 | 0 to 75°C | 2.0 | 200 |
| 1N4568A | .5 | 0.001 | .06 | -55 to 100°C | 2.0 | 200 |
| 1N4569 | .5 | 0.0005 | .03 | 0 to 75°C | 2.0 | 200 |
| 1N4569A | .5 | 0.0005 | .03 | -55 to 100°C | 2.0 | 200 |
| 1N4570 | .5 | 0.01 | .64 | 0 to 75°C | 2.0 | 100 |
| 1N4570A | .5 | 0.01 | .64 | -55 to 100°C | 2.0 | 100 |
| 1N4571 | 1.0 | 0.005 | .32 | 0 to 75°C | 2.0 | 100 |
| 1N4571A | 1.0 | 0.005 | .32 | -55 to 100°C | 2.0 | 100 |
| 1N4572 | 1.0 | 0.002 | .13 | 0 to 75°C | 2.0 | 100 |
| 1N4572A | 1.0 | 0.002 | .13 | -55 to 100°C | 2.0 | 100 |
| 1N4573 | 1.0 | 0.001 | .06 | 0 to 75°C | 2.0 | 100 |
| 1N4573A | 1.0 | 0.001 | .06 | -55 to 100°C | 2.0 | 100 |
| 1N4574 | 1.0 | 0.0005 | .03 | 0 to 75°C | 2.0 | 100 |
| 1N4574A | 1.0 | 0.0005 | .03 | -55 to 100°C | 2.0 | 100 |
| 1N4575 | 2.0 | 0.01 | .64 | 0 to 75°C | 2.0 | 50 |
| 1N4575A | 2.0 | 0.01 | .64 | -55 to 100°C | 2.0 | 50 |
| 1N4576 | 2.0 | 0.005 | .32 | 0 to 75°C | 2.0 | 50 |
| 1N4576A | 2.0 | 0.005 | .32 | -55 to 100°C | 2.0 | 50 |
| 1N4577 | 2.0 | 0.002 | .13 | 0 to 75°C | 2.0 | 50 |
| 1N4577A | 2.0 | 0.002 | .13 | -55 to 100°C | 2.0 | 50 |
| 1N4578 | 2.0 | 0.001 | .06 | 0 to 75°C | 2.0 | 50 |
| 1N4578A | 2.0 | 0.001 | .06 | -55 to 100°C | 2.0 | 50 |
| 1N4579 | 2.0 | 0.0005 | .03 | 0 to 75°C | 2.0 | 50 |
| 1N4579A | 2.0 | 0.0005 | .03 | -55 to 100°C | 2.0 | 50 |
| 1N4580 | 4.0 | 0.01 | .64 | 0 to 75°C | 2.0 | 25 |
| 1N4580A | 4.0 | 0.01 | .64 | -55 to 100°C | 2.0 | 25 |
| 1N4581 | 4.0 | 0.005 | .32 | 0 to 75°C | 2.0 | 25 |

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ZENER REFERENCE DIODES

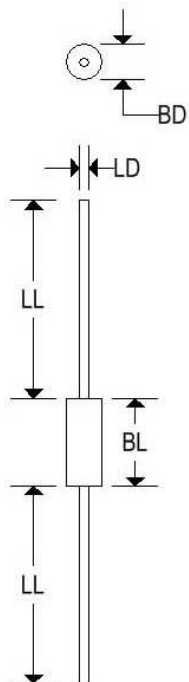
ELECTRICAL CHARACTERISTICS

| Part number (Note 1) | Zener test current (Note 3) I_{ZT} | Maximum voltage temperature coefficient | | | Maximum reverse current $I_R @ 3 V$ | Maximum dynamic impedance (Note 2) $Z_{ZT} @ I_{ZT}$ |
|-------------------------|--|---|---------------------|--------------|--|---|
| | mA | αV_Z $\pm \% / ^\circ C$ | $\pm mV / ^\circ C$ | Temp. range | μA | mA |
| 1N4581A | 4.0 | .005 | .32 | -55 to 100°C | 2.0 | 25 |
| 1N4582 | 4.0 | .002 | .13 | 0 to 75°C | 2.0 | 25 |
| 1N4582A | 4.0 | .002 | .13 | -55 to 100°C | 2.0 | 25 |
| 1N4583 | 4.0 | .001 | .06 | 0 to 75°C | 2.0 | 25 |
| 1N4583A | 4.0 | .001 | .06 | -55 to 100°C | 2.0 | 25 |
| 1N4584 | 4.0 | .0005 | .03 | 0 to 75°C | 2.0 | 25 |
| 1N4584A | 4.0 | .0005 | .03 | -55 to 100°C | 2.0 | 25 |

1. Devices with tighter tolerances than specified for the V_Z voltage nominal of 6.4V, add a hyphenated suffix to the part number for desired tolerance
2. Zener impedance is measured by superimposing 0.75 mA ac rms on 7.5 mA dc @ 25°C.
3. Voltage measurements to be performed 15 seconds after application of dc test current I_{ZT} .

MECHANICAL CHARACTERISTICS

| | |
|----------|----------------------------------|
| Case | DO-35, hermetically sealed glass |
| Marking | Body painted, alpha numeric |
| Polarity | Cathode band |



| | DO-35 | | | |
|----|--------|-------|-------------|--------|
| | Inches | | Millimeters | |
| | Min | Max | Min | Max |
| BD | 0.055 | 0.090 | 1.400 | 2.290 |
| BL | 0.120 | 0.200 | 3.050 | 5.080 |
| LD | 0.018 | 0.022 | 0.460 | 0.560 |
| LL | 1.000 | 1.500 | 25.400 | 38.100 |

Available Non-RoHS (standard) or RoHS compliant (add PBF suffix).

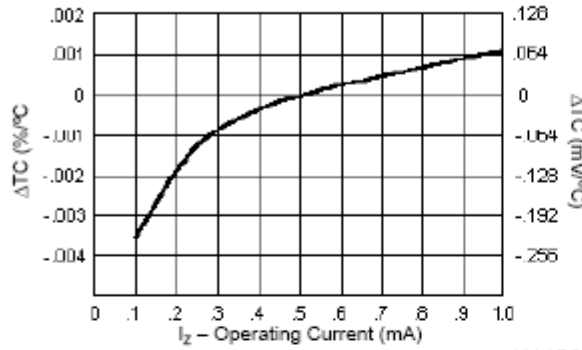
Available as "HR" (high reliability) screened per MIL-PRF-19500, JANTX level. Add "HR" suffix to base part number.

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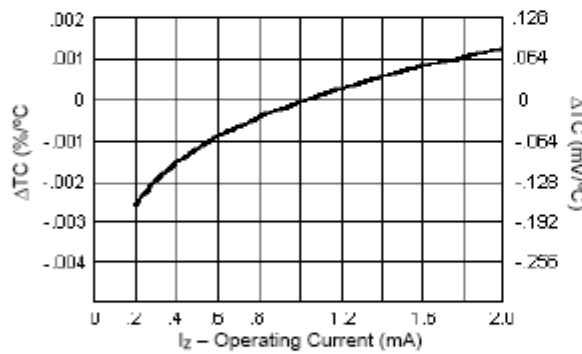
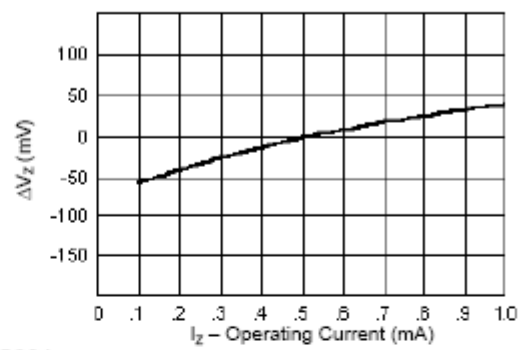
6.4 VOLT TEMPERATURE COMPENSATED
ZENER REFERENCE DIODES

Typical change of
Temperature Coefficient
with change in
Operating Current



1N4565 - 1N4569A

Typical Change
in Zener Voltage
with change in
Operating Current



1N4570 - 1N4574A

