*New Jersey Semi-Conductor Products, Inc.*

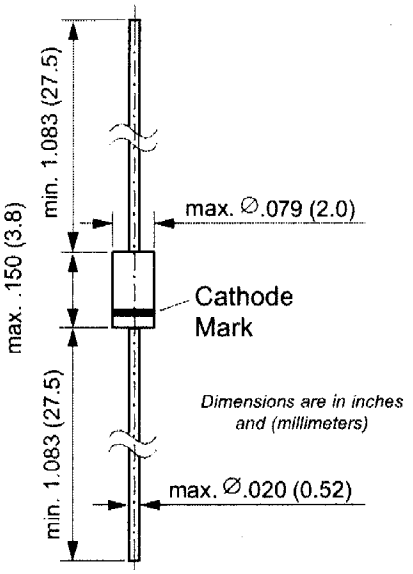
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# Voltage Stabilizers

## ZTE1.5 thru ZTE5.1

**DO-204AH (DO-35 Glass)**




## Features

- Silicon Stabilizer Diodes
- Monolithic integrated analog circuits designed for small power stabilizer and limitation circuits, providing low dynamic resistance and high-quality stabilization performance as well as low noise. In the reverse direction, these devices show the behavior of forward-biased silicon diodes.
- The end of the ZTE device marked with the cathode ring is to be connected: ZTE1.5 and ZTE2 to the negative pole of the supply voltage; ZTE2.4 thru ZTE5.1 to the positive pole of the supply voltage.
- These diodes are also available in MiniMELF case with the type designation LL1.5 ... LL 5.1.

## Mechanical Data

**Case:** DO-35 Glass Case
**Weight:** approx. 0.13g
**Packaging codes/options:**
D7/10K per 13" reel (52mm tape), 20K/box
D8/10K per Ammo tape, (52mm tape), 20K/box

## Maximum Ratings ($T_A$ = 25°C unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Operating Current (see Table "Characteristics") | | | |
| Inverse Current | $I_F$ | 100 | mA |
| Power dissipation at $T_{amb}$ = 25°C | $P_{tot}$ | 300(1) | mW |
| Junction temperature | $T_J$ | 150 | °C |
| Storage temperature range | $T_S$ | −55 to +150 | °C |

## Electrical and Thermal Characteristics ($T_A$ = 25°C unless otherwise noted)

| Parameter | | Symbol | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Forward Voltage at $I_F$ = 10 mA | | $V_F$ | – | – | 1.1 | V |
| Temperature Coefficient of the stabilized voltage at $I_Z$ = 5 mA | ZTE1.5, ZTE2 | $\alpha_{VZ}$ | – | −26 | – | $10^{-4}$/°C |
| | ZTE2.4, ZTE5.1 | $\alpha_{VZ}$ | – | −34 | – | $10^{-4}$/°C |
| Thermal resistance junction to ambient air | | $R_{\theta JA}$ | – | – | 400(1) | °C/W |

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## Electrical Characteristics ($T_A$ = 25°C unless otherwise noted)

| Type | Operating Voltage at $I_Z$ = 5mA[2] $V_Z$ (Ω) | Dynamic resistance at $I_Z$ = 5mA $r_{zj}$ (Ω) | Permissable operating current at $T_{amb}$ = 25°C[1] $I_Z$ max. (mA) |
|---|---|---|---|
| ZTE1.5 | 1.35 ... 1.55 | 13(<20) | 120 |
| ZTE2 | 2.0 ... 2.3 | 18(<30) | 120 |
| ZTE2.4 | 2.2 ... 2.56 | 14(<20) | 120 |
| ZTE2.7 | 2.5 ... 2.9 | 15(<20) | 105 |
| ZTE3 | 2.8 ... 3.2 | 15(<20) | 95 |
| ZTE3.3 | 3.1 ... 3.5 | 16(<20) | 90 |
| ZTE3.6 | 3.4 ... 3.8 | 16(<25) | 80 |
| ZTE3.9 | 3.7 ... 4.1 | 17(<25) | 75 |
| ZTE4.3 | 4.0 ... 4.6 | 17(<25) | 65 |
| ZTE4.7 | 4.4 ... 5.0 | 18(<25) | 60 |
| ZTE5.1 | 4.8 ... 5.4 | 18(<25) | 55 |

**Notes:** (1) Valid provided that electrodes are kept at ambient temperature at a distance of 8mm from case
(2) Tested with pulses $t_p$ = 5ms