



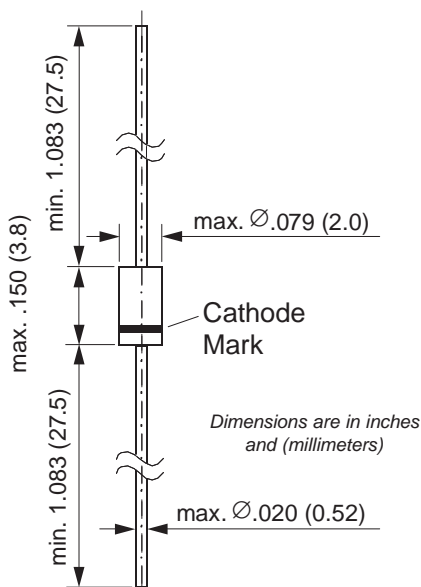
## ZTE1.5 thru ZTE5.1

Vishay Semiconductors  
formerly General Semiconductor

### Voltage Stabilizers



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

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### Maximum Ratings ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Operating Current (see Table "Characteristics")			
Inverse Current	$I_F$	100	mA
Power dissipation at $T_{amb} = 25^\circ\text{C}$	$P_{tot}$	300 <sup>(1)</sup>	mW
Junction temperature	$T_J$	150	$^\circ\text{C}$
Storage temperature range	$T_S$	-55 to +150	$^\circ\text{C}$

### Electrical and Thermal Characteristics ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

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

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**Electrical Characteristics** (T<sub>A</sub> = 25°C unless otherwise noted)

Type	Operating Voltage at I <sub>Z</sub> = 5mA <sup>(2)</sup> V <sub>Z</sub> (Ω)	Dynamic resistance at I <sub>Z</sub> = 5mA r <sub>Zj</sub> (Ω)	Permissible operating current at T <sub>amb</sub> = 25°C <sup>(1)</sup> I <sub>Z</sub> 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<sub>p</sub> = 5ms

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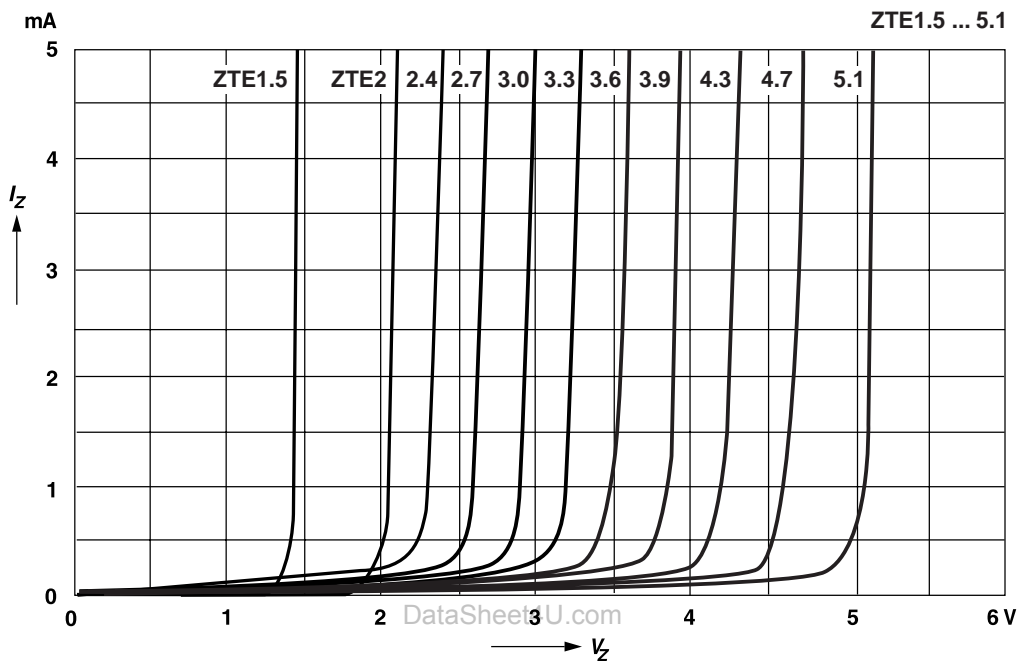
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## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

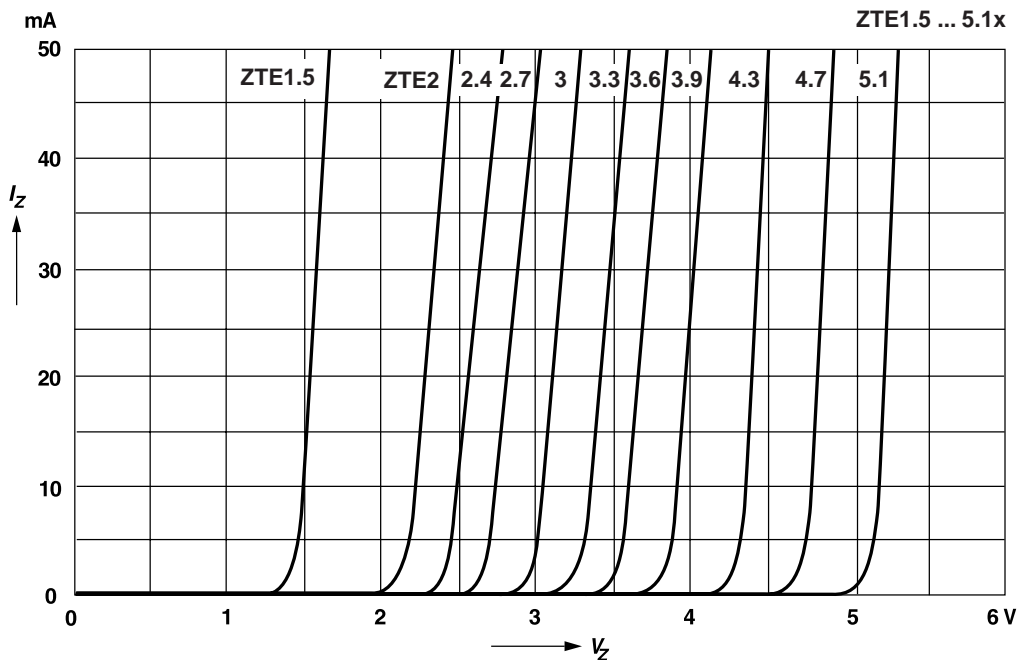
### Breakdown characteristics

$T_j = \text{constant (pulsed)}$



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# ZTE1.5 thru ZTE5.1

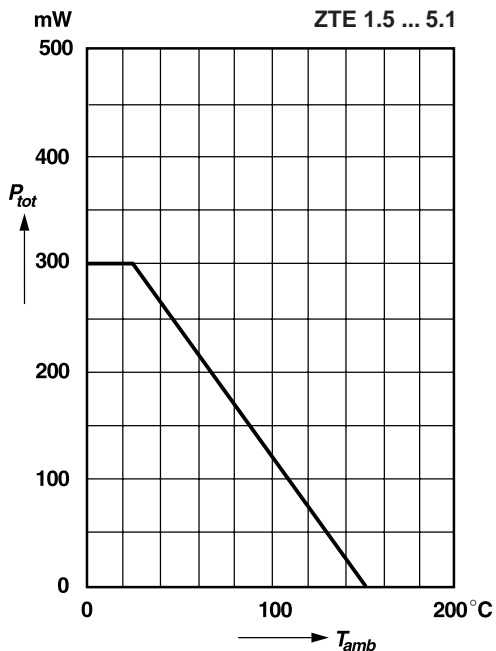


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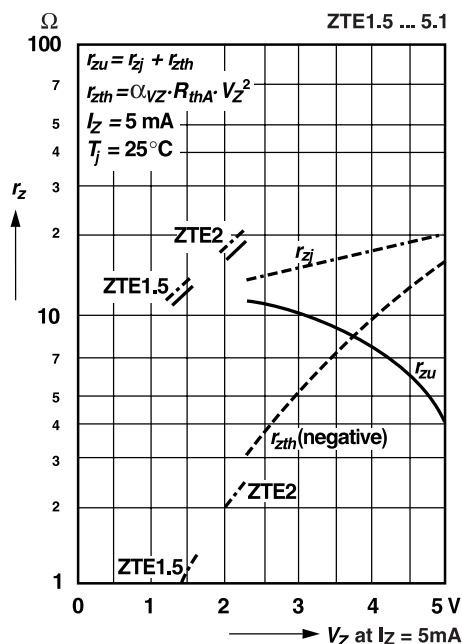
## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

### Admissible power dissipation versus ambient temperature

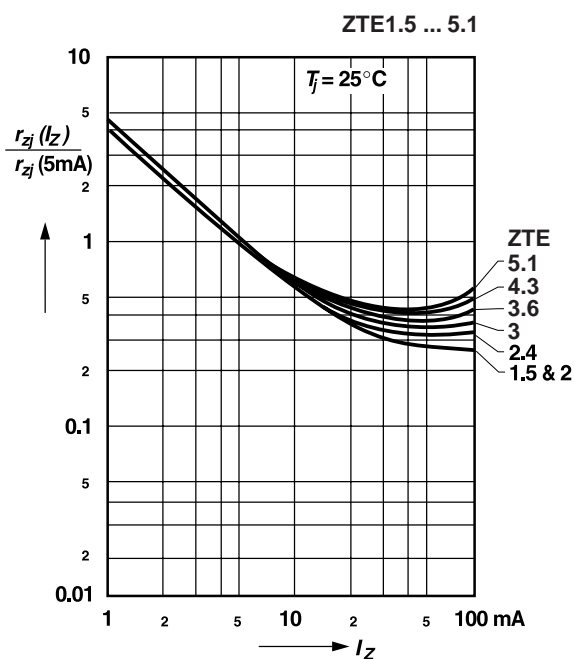
Valid provided that leads at a distance of 8 mm from case are kept at ambient temperature



### Dynamic resistance versus operating voltage



### Dynamic resistance versus operating current, normalized



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