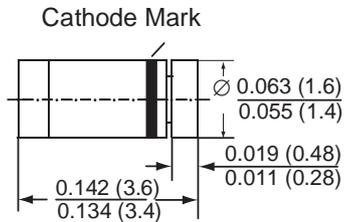


## Voltage Stabilizers

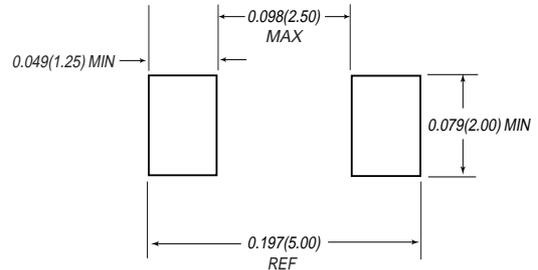


### MiniMELF (SOD-80C)



Dimensions in inches and (millimeters)

### Mounting Pad Layout



## Mechanical Data

**Case:** MiniMELF Glass Case (SOD-80C)

**Weight:** approx. 0.05g

**Cathode band color:** Blue

**Packaging codes/options:**

D1/10K per 13" reel (8mm tape), 20K/box

D2/2.5K per 7" reel (8mm tape), 20K/box

## Features

- Silicon Planar Stabilizer Diodes
- Monolithic integrated analog circuits in MiniMELF case, 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 device marked with the cathode ring is to be connected: LL1.5 and LL2 to the negative pole of the supply voltage; LL2.4 thru LL5.1 to the positive pole of the supply voltage
- These diodes are also available in DO-35 case with the type designation ZTE1.5 ... ZTE 5.1.

## Maximum Ratings (T<sub>A</sub> = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Operating Current (see Table "Characteristics")			
Inverse Current	I <sub>F</sub>	100	mA
Power dissipation at T <sub>amb</sub> = 25°C	P <sub>tot</sub>	300 <sup>(1)</sup>	W
Junction temperature	T <sub>J</sub>	150	°C
Storage temperature range	T <sub>S</sub>	-55 to +150	°C

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
Forward Voltage at I <sub>F</sub> = 10mA	V <sub>F</sub>	-	-	1.1	V
Temperature Coefficient of the stabilized voltage at I <sub>Z</sub> = 5mA	LL1.5, LL2	α <sub>VZ</sub>	-	-26	10 <sup>-4</sup> /°C
	LL2.4, LL5.1	α <sub>VZ</sub>	-	-34	10 <sup>-4</sup> /°C
Thermal resistance junction to ambient air	R <sub>θJA</sub>	-	-	400 <sup>(1)</sup>	°C/W



## 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)
LL1.5	1.35 ... 1.55	13(<20)	120
LL2	2.0 ... 2.3	18(<30)	120
LL2.4	2.2 ... 2.56	14(<20)	120
LL2.7	2.5 ... 2.9	15(<20)	105
LL3	2.8 ... 3.2	15(<20)	95
LL3.3	3.1 ... 3.5	16(<20)	90
LL3.6	3.4 ... 3.8	16(<25)	80
LL3.9	3.7 ... 4.1	17(<25)	75
LL4.3	4.0 ... 4.6	17(<25)	65
LL4.7	4.4 ... 5.0	18(<25)	60
LL5.1	4.8 ... 5.4	18(<25)	55

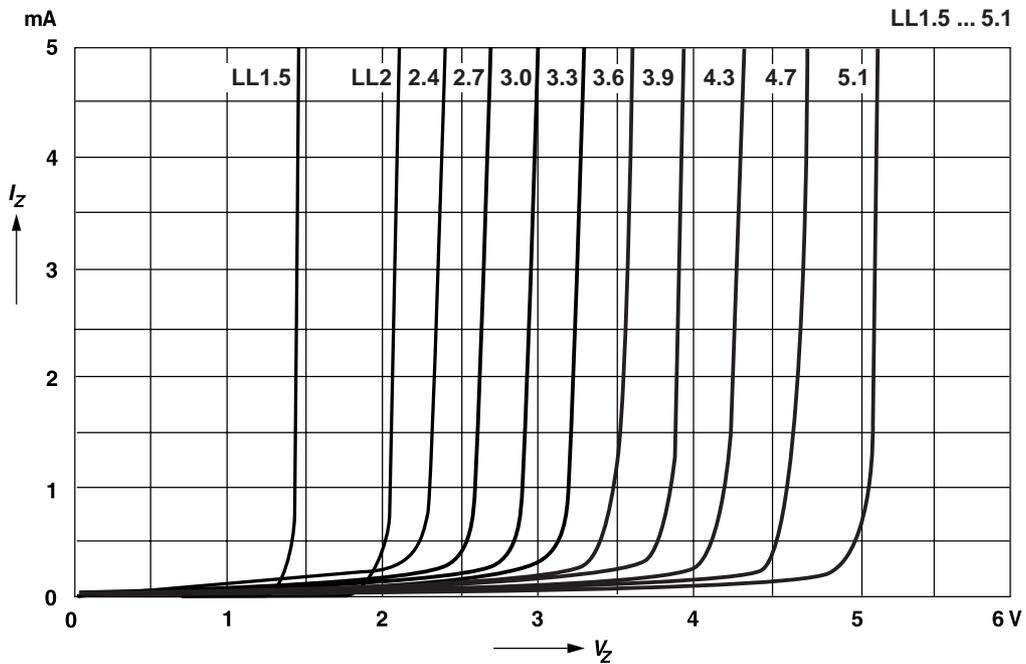
**Notes:** (1) Valid provided that electrodes are kept at ambient temperature at a distance of 8mm from case  
(2) Tested with pulses t<sub>p</sub> = 5ms



Ratings and  
Characteristic Curves (T<sub>A</sub> = 25°C unless otherwise noted)

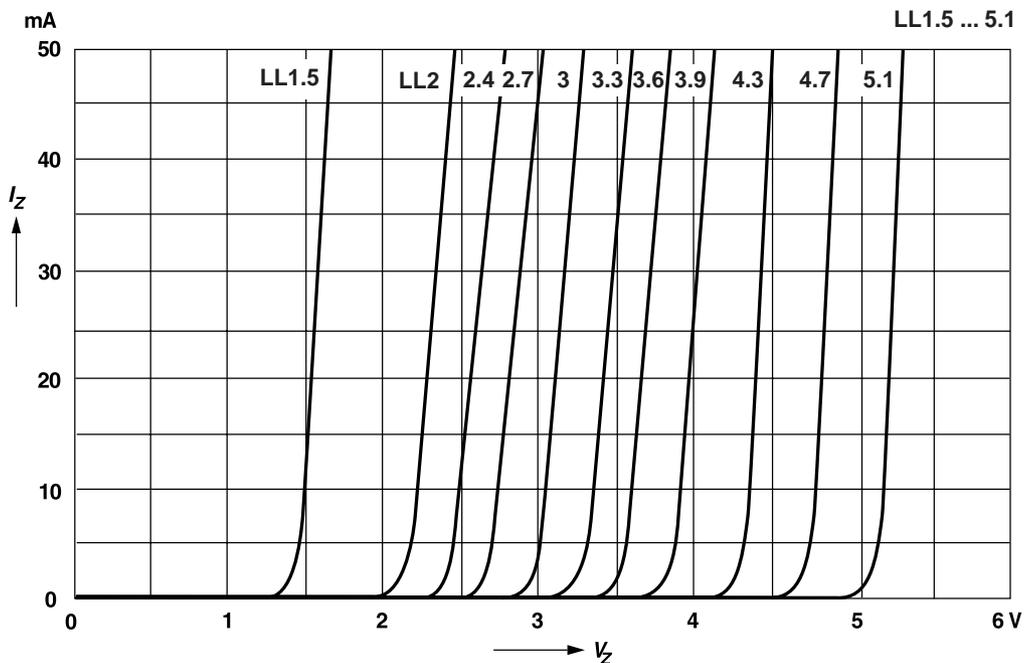
Breakdown characteristics

T<sub>j</sub> = constant (pulsed)



Breakdown characteristics

T<sub>j</sub> = constant (pulsed)



# LL1.5 thru LL5.1

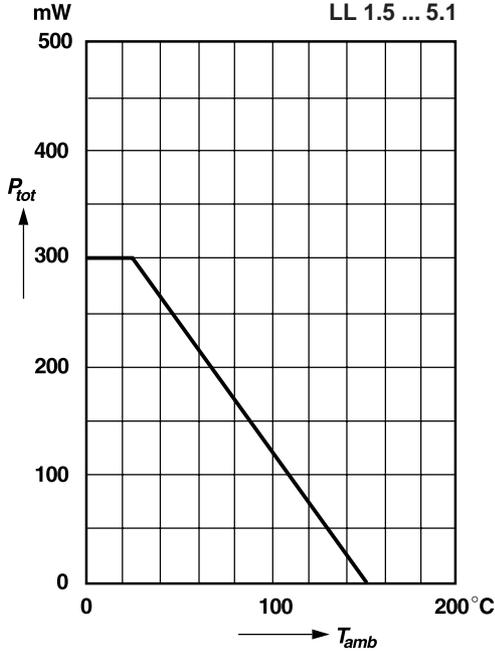


Vishay Semiconductors  
formerly General Semiconductor

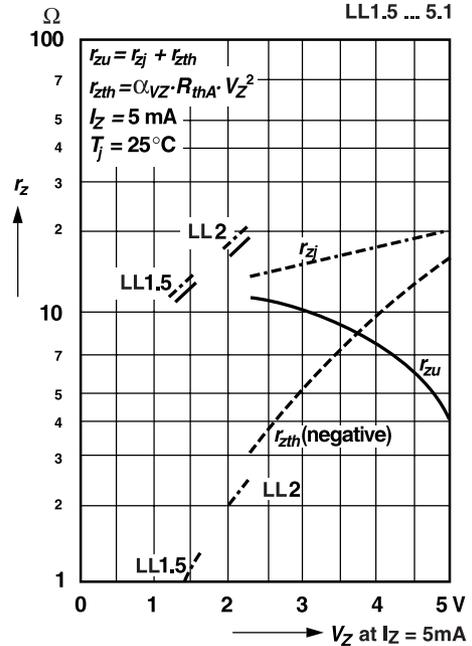
## Ratings and Characteristic Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

### 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

