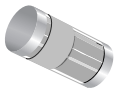
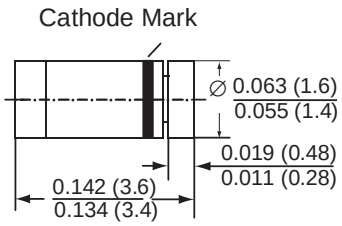
GENERAL SEMICONDUCTOR®

LL1.5 thru LL5.1

Voltage Stabilizers

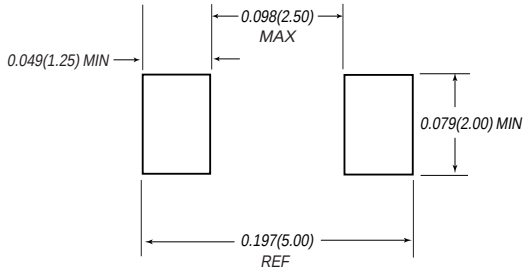


MiniMELF (SOD-80C)



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_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)	W
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 = 10mA		V_F	–	–	1.1	V
Temperature Coefficient of the	LL1.5, LL2	α_{VZ}	–	–26	–	10^{-4}/°C
stabilized voltage at I_Z = 5mA	LL2.4, LL5.1	α_{VZ}	–	–34	–	10^{-4}/°C
Thermal resistance junction to ambient air		$R_{\theta JA}$	–	–	400(1)	°C/W

LL1.5 thru LL5.1

Voltage Stabilizers

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

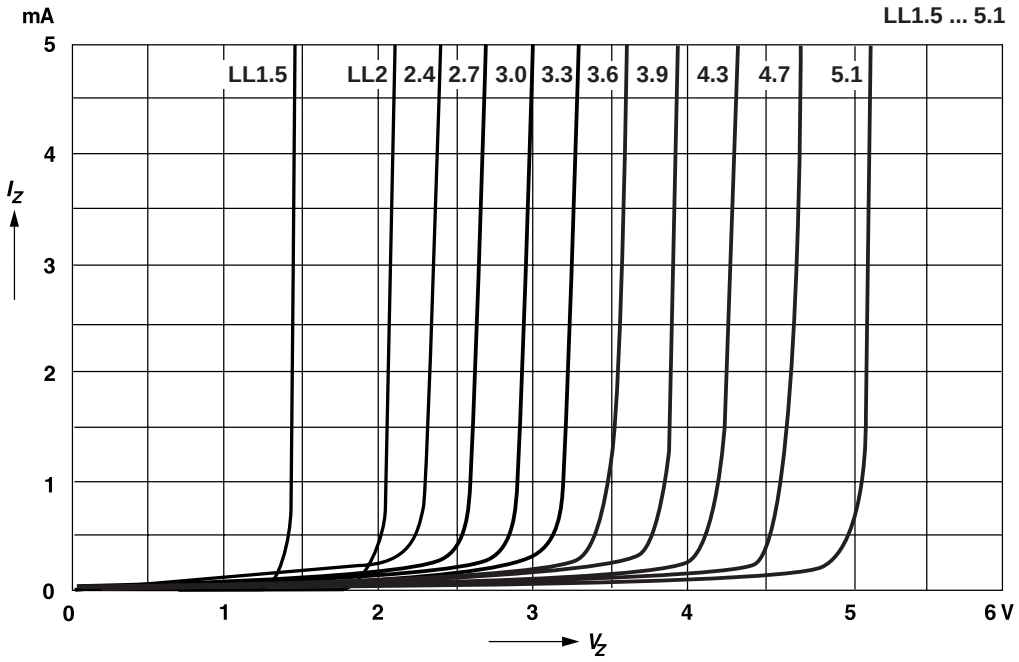
Type	Operating Voltage at I_Z = 5mA[2] V_Z (Ω)	Dynamic resistance at I_Z = 5mA r_{zj} (Ω)	Permissable operating current at T_{amb} = 25°C[1] I_Z max. (mA)
LL1.5	1.35 ... 1.55	13(<20)	120
LL2	2.0 ... 2.3	18(<30)	120
LL2.4	2.2 ... 2.56	14(<20)	120
LL2.7	2.5 ... 2.9	15(<20)	105
LL3	2.8 ... 3.2	15(<20)	95
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_p = 5ms

Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

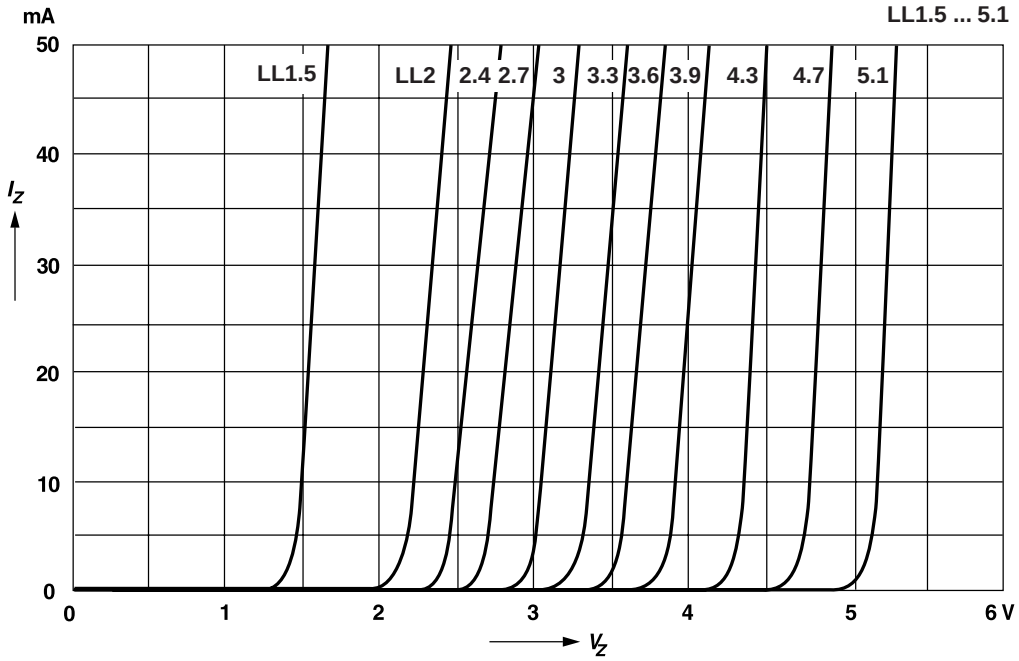
Breakdown characteristics

T_j = constant (pulsed)



Breakdown characteristics

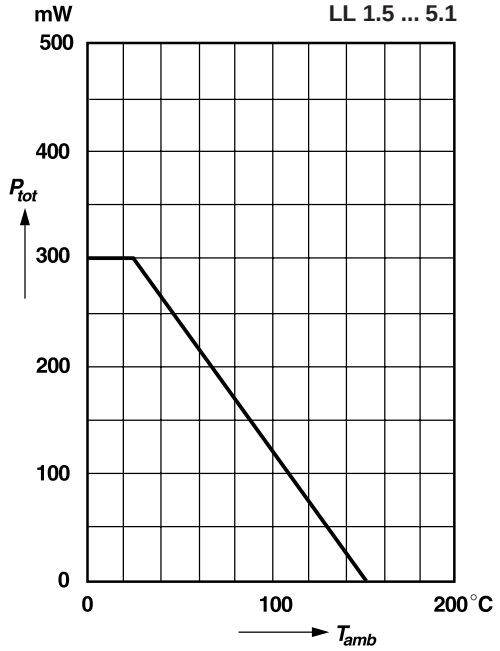
T_j = constant (pulsed)



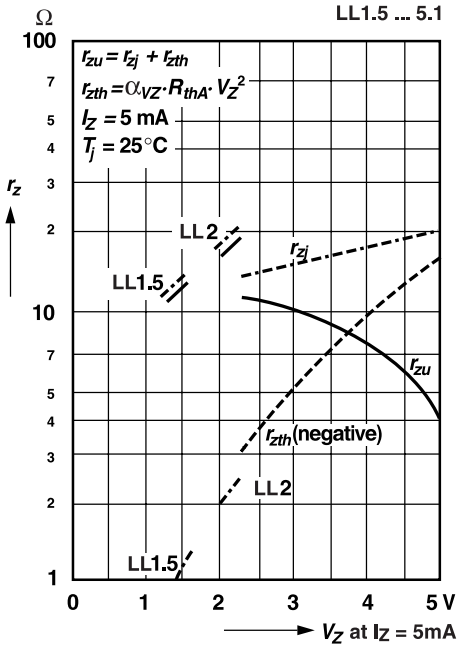
Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

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