Zener diode

Features

1. Small surface mounting type
2. High reliability

Applications

Voltage stabilization

Absolute Maximum Ratings

T_j=25 ℃

Parameter	Test Conditions	Type	Symbol	Value	Unit
Power dissipation	R_{thJA}≦300K/W		P_V	500	mW
Z-current			I_Z	P_V/V_Z	mA
Junction temperature			T_j	175	℃
Storage temperature range			T_{stg}	-65~+175	℃

Stresses exceeding maximum ratings may damage the device. Maximum ratings are stress ratings only. Functional operation above the recommended operating conditions is not implied. Extended exposure to stresses above the recommended operating conditions may affect device reliability.

Electrical Characteristics

T_j=25 ℃

Parameter	Test Conditions	Type	Symbol	Min	Typ	Max	Unit
Forward voltage	I_F=200mA		V_F			1.5	V

Type	V_{Znom}	I_{ZT}	for V_{ZT} and	r_{zjT}	r_{zjK} at	I_{ZK}	I_R and	I_R at	V_R	TK_{VZ}
LL55B	V	mA	V	Ω	Ω	mA	μA	μA1)	V	%/K
2V0	2.0	5	1.96~2.04	<100	<600	1	<150	<300	1	-0.09~-0.06
2V2	2.2	5	2.15~2.25	<100	<600	1	<150	<300	1	-0.09~-0.06
2V4	2.4	5	2.35~2.45	<85	<600	1	<50	<100	1	-0.09~-0.06
2V7	2.7	5	2.64~2.76	<85	<600	1	<10	<50	1	-0.09~-0.06
3V0	3.0	5	2.94~3.06	<85	<600	1	<4	<40	1	-0.08~-0.05
3V3	3.3	5	3.24~3.36	<85	<600	1	<2	<40	1	-0.08~-0.05
3V6	3.6	5	3.52~3.68	<85	<600	1	<2	<40	1	-0.08~-0.05
3V9	3.9	5	3.82~3.98	<85	<600	1	<2	<40	1	-0.08~-0.05
4V3	4.3	5	4.22~4.38	<75	<600	1	<1	<20	1	-0.06~-0.03
4V7	4.7	5	4.6~4.8	<60	<600	1	<0.5	<10	1	-0.05~+0.02
5V1	5.1	5	5.0~5.2	<35	<550	1	<0.1	<2	1	-0.02~+0.02
5V6	5.6	5	5.48~5.72	<25	<450	1	<0.1	<2	1	-0.05~+0.05
6V2	6.2	5	6.08~6.32	<10	<200	1	<0.1	<2	2	0.03~0.06
6V8	6.8	5	6.66~6.94	<8	<150	1	<0.1	<2	3	0.03~0.07
7V5	7.5	5	7.35~7.65	<7	<50	1	<0.1	<2	5	0.03~0.07
8V2	8.2	5	8.04~8.36	<7	<50	1	<0.1	<2	6.2	0.03~0.08
9V1	9.1	5	8.92~9.28	<10	<50	1	<0.1	<2	6.8	0.03~0.09
10	10	5	9.8~10.2	<15	<70	1	<0.1	<2	7.5	0.03~0.1
11	11	5	10.78~11.22	<20	<70	1	<0.1	<2	8.2	0.03~0.11
12	12	5	11.76~12.24	<20	<90	1	<0.1	<2	9.1	0.03~0.11
13	13	5	12.74~13.26	<26	<110	1	<0.1	<2	10	0.03~0.11
15	15	5	14.7~15.3	<30	<110	1	<0.1	<2	11	0.03~0.11
16	16	5	15.7~16.3	<40	<170	1	<0.1	<2	12	0.03~0.11
18	18	5	17.64~18.36	<50	<170	1	<0.1	<2	13	0.03~0.11
20	20	5	19.6~20.4	<55	<220	1	<0.1	<2	15	0.03~0.11
22	22	5	21.55~22.45	<55	<220	1	<0.1	<2	16	0.04~0.12
24	24	5	23.5~24.5	<80	<220	1	<0.1	<2	18	0.04~0.12
27	27	5	26.4~27.6	<80	<220	1	<0.1	<2	20	0.04~0.12
30	30	5	29.4~30.6	<80	<220	1	<0.1	<2	22	0.04~0.12
33	33	5	32.4~33.6	<80	<220	1	<0.1	<2	24	0.04~0.12
36	36	5	35.3~36.7	<80	<220	1	<0.1	<2	27	0.04~0.12
39	39	2.5	38.2~39.8	<90	<500	0.5	<0.1	<5	30	0.04~0.12
43	43	2.5	42.1~43.9	<90	<600	0.5	<0.1	<5	33	0.04~0.12
47	47	2.5	46.1~47.9	<110	<700	0.5	<0.1	<5	36	0.04~0.12
51	51	2.5	50~52	<125	<700	0.5	<0.1	<10	39	0.04~0.12
56	56	2.5	54.9~57.1	<135	<1000	0.5	<0.1	<10	43	0.04~0.12
62	62	2.5	60.8~63.2	<150	<1000	0.5	<0.1	<10	47	0.04~0.12
68	68	2.5	66.6~69.4	<200	<1000	0.5	<0.1	<10	51	0.04~0.12
75	75	2.5	73.5~76.5	<250	<1500	0.5	<0.1	<10	56	0.04~0.12

1) at T_j=150°C

Characteristics (T_j=25 ℃ unless otherwise specified)

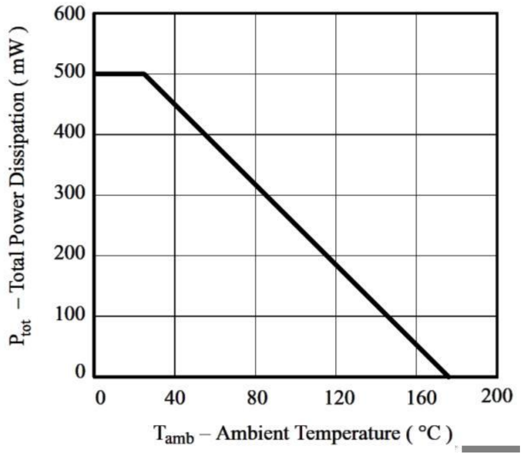


Figure 1. Total Power Dissipation vs. Ambient Temperature

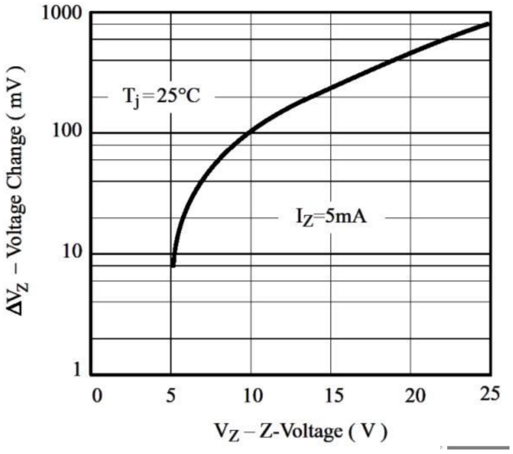


Figure 2. Typical Change of Working Voltage under Operating Conditions at T_{amb}=25 ℃

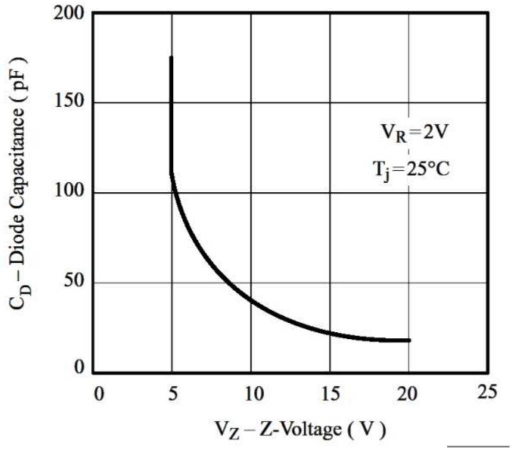


Figure 3. Diode Capacitance vs. Z-voltage

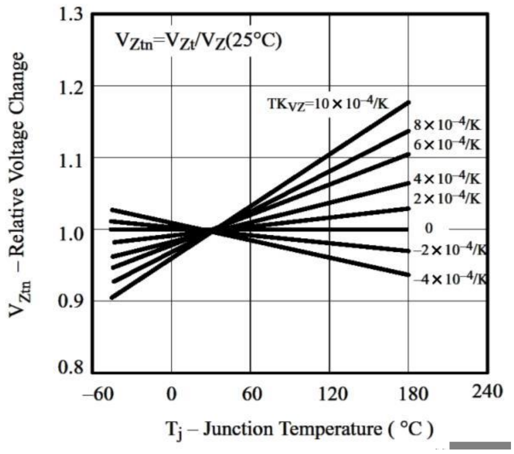


Figure 4. Typical Change of Working Voltage Vs. Junction Temperature

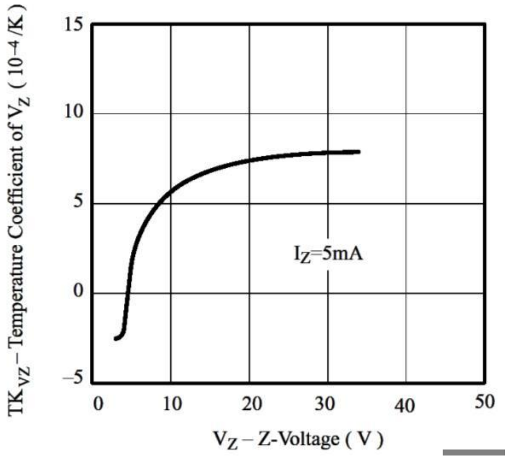


Figure 5. Temperature Coefficient of Vz vs. Z-Voltage

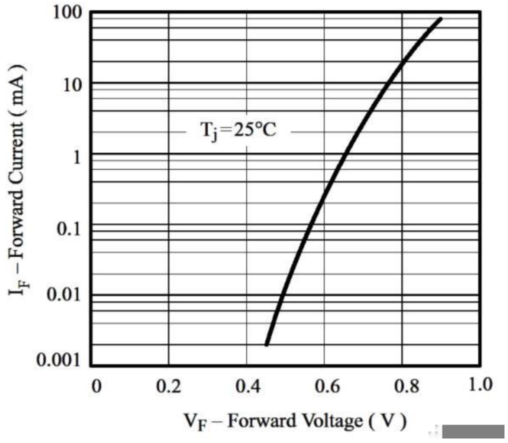


Figure 6. Forward Current vs. Forward Voltage

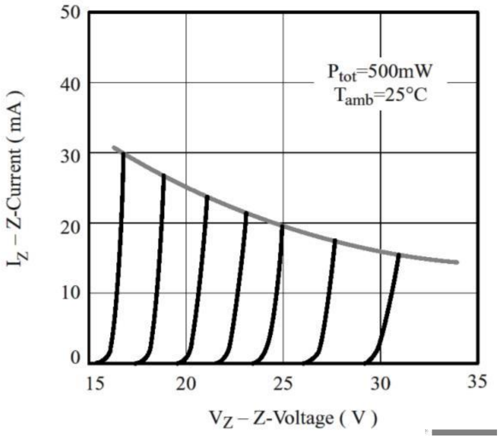


Figure 8. Z-Current vs. Z-Voltage

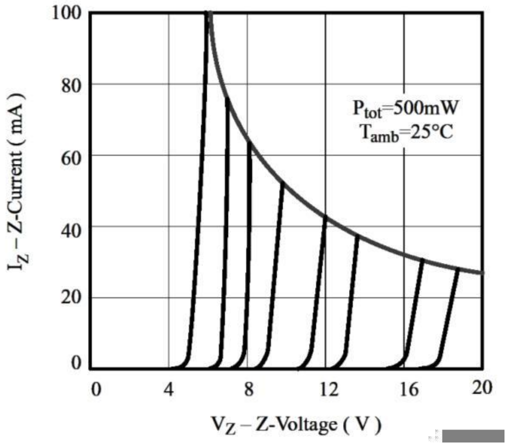


Figure 7. Z-Current vs. Z-Voltage

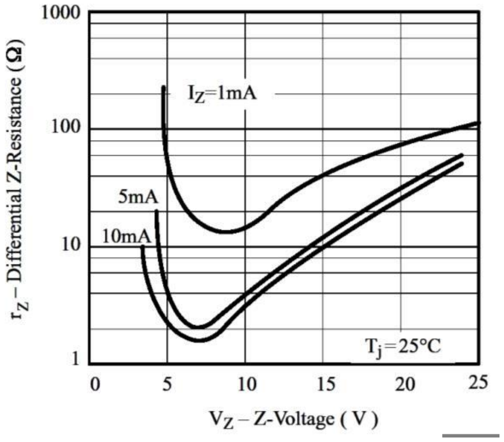
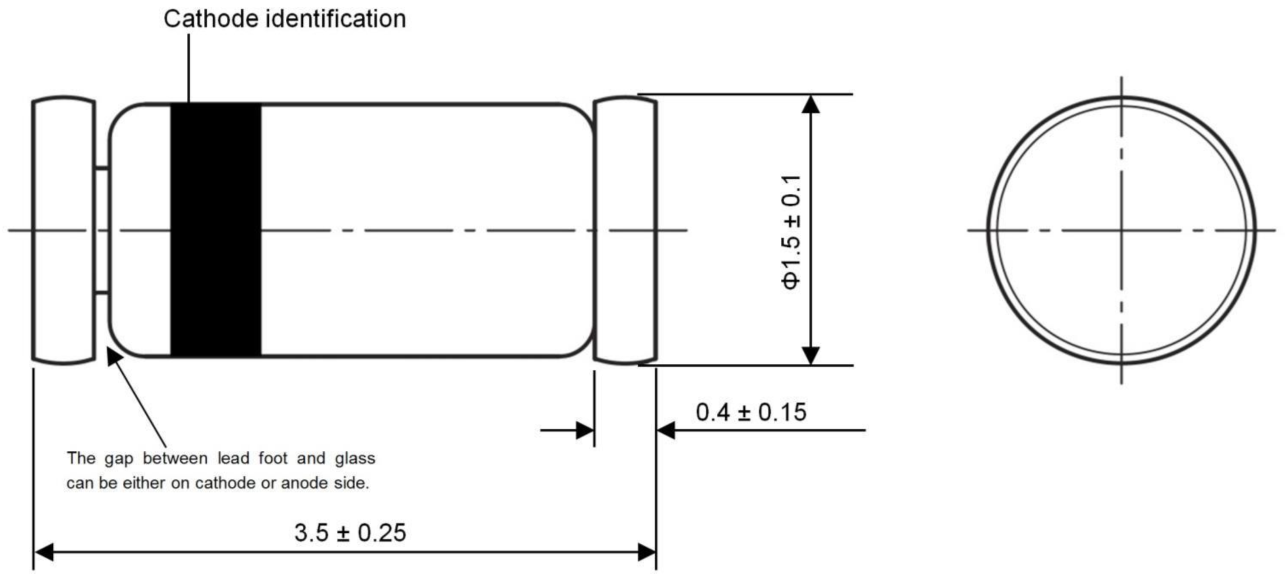


Figure 9. Differential Z-Resistance Vz vs. Z-Voltage

Dimensions in mm



Glass Case
Mini Melf / SOD-80
JEDEC DO-213 AA