

Small Signal Diode


**Mini-MELF (LL34)
HERMETICALLY SEALED GLASS**

Features

- ◊ Wide zener voltage range selection: 2.4V to 75V
- ◊ V_Z Tolerance Selection of ±2%
- ◊ Designed for through-Hole Device Type Mounting
- ◊ Hermetically Sealed Glass
- ◊ Pb free version and RoHS compliant
- ◊ High reliability glass passivation insuring parameter stability and protection against junction contamination

Mechanical Data

- ◊ Case : Mini-MELF Package (JEDEC DO-213AC)
- ◊ High temperature soldering guaranteed : 270°C/10s
- ◊ Polarity : Indicated by cathode band
- ◊ Weight : approx. 31 mg

Ordering Information

Part No.	Package code	Package	Packing
BZV55B2V4-75	L0	LL34	10K / 13" Reel
BZV55B2V4-75	L1	LL34	2.5K / 7" Reel

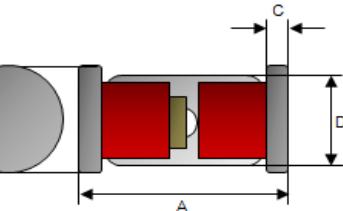
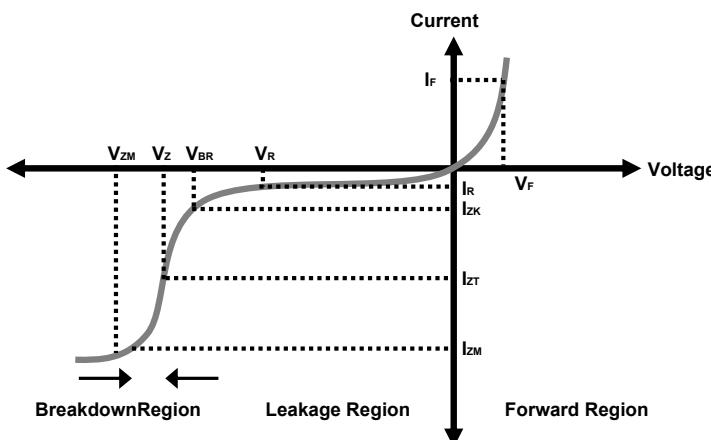
Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Maximum Ratings

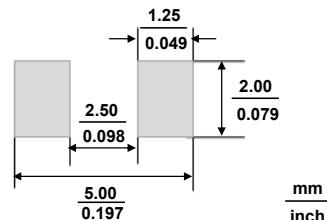
Type Number	Symbol	Value	Units
Power Dissipation	P _D	500	mW
Maximum Forward Voltage @I _F =100mA	V _F	1	V
Thermal Resistance (Junction to Ambient) (Note 1)	R _{θJA}	300	°C/W
Storage Temperature Range	T _J , T _{STG}	-65 to + 175	°C

Zener I vs.V Characteristics



Dimensions	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	3.30	3.70	0.130	0.146
B	1.40	1.60	0.055	0.063
C	0.25	0.40	0.010	0.016
D	1.25	1.40	0.049	0.055

Suggested PAD Layout



- V_{BR}** : Voltage at I_{ZK}
- I_{ZK}** : Test current for voltage V_{BR}
- Z_{ZK}** : Dynamic impedance at I_{ZK}
- I_{ZT}** : Test current for voltage V_Z
- V_Z** : Voltage at current I_{ZT}
- Z_{ZT}** : Dynamic impedance at I_{ZT}
- I_{ZM}** : Maximum steady state current
- V_{ZM}** : Voltage at I_{ZM}

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Electrical Characteristics

T_A = 25°C unless otherwise noted

V_F Forward Voltage = 1.0V Maximum @ I_f = 100 mA for all part numbers

Part Number	V _Z @ I _{ZT} (Volt)			I _{ZT} (mA)	Z _{ZT} @ I _{ZT} (Ω) Max	I _{ZK} (mA)	Z _{ZK} @ I _{ZK} (Ω) Max	I _R @ V _R (μA) Max	V _R (V)
	Min	Nom	Max						
BZV55B2V4	2.35	2.4	2.45	5	85	1.0	600	50	1.0
BZV55B2V7	2.65	2.7	2.75	5	85	1.0	600	10	1.0
BZV55B3V0	2.94	3.0	3.06	5	85	1.0	600	4	1.0
BZV55B3V3	3.23	3.3	3.37	5	85	1.0	600	2	1.0
BZV55B3V6	3.53	3.6	3.67	5	85	1.0	600	2	1.0
BZV55B3V9	3.82	3.9	3.98	5	85	1.0	600	2	1.0
BZV55B4V3	4.21	4.3	4.39	5	75	1.0	600	1	1.0
BZV55B4V7	4.61	4.7	4.79	5	60	1.0	600	0.5	1.0
BZV55B5V1	5.00	5.1	5.20	5	35	1.0	550	0.1	1.0
BZV55B5V6	5.49	5.6	5.71	5	25	1.0	450	0.1	1.0
BZV55B6V2	6.08	6.2	6.32	5	10	1.0	200	0.1	2.0
BZV55B6V8	6.66	6.8	6.94	5	8	1.0	150	0.1	3.0
BZV55B7V5	7.35	7.5	7.65	5	7	1.0	50	0.1	5.0
BZV55B8V2	8.04	8.2	8.36	5	7	1.0	50	0.1	6.2
BZV55B9V1	8.92	9.1	9.28	5	10	1.0	50	0.1	6.8
BZV55B10	9.80	10	10.20	5	15	1.0	70	0.1	7.5
BZV55B11	10.78	11	11.22	5	20	1.0	70	0.1	8.2
BZV55B12	11.76	12	12.24	5	20	1.0	90	0.1	9.1
BZV55B13	12.74	13	13.26	5	26	1.0	110	0.1	10
BZV55B15	14.70	15	15.30	5	30	1.0	110	0.1	11
BZV55B16	15.68	16	16.32	5	40	1.0	170	0.1	12
BZV55B18	17.64	18	18.36	5	50	1.0	170	0.1	13
BZV55B20	19.60	20	20.40	5	55	1.0	220	0.1	15
BZV55B22	21.56	22	22.44	5	55	1.0	220	0.1	16
BZV55B24	23.52	24	24.48	5	80	1.0	220	0.1	18
BZV55B27	26.46	27	27.54	5	80	1.0	220	0.1	20
BZV55B30	29.40	30	30.60	5	80	1.0	220	0.1	22
BZV55B33	32.34	33	33.66	5	80	1.0	220	0.1	24
BZV55B36	35.28	36	36.72	5	80	1.0	220	0.1	27
BZV55B39	38.22	39	39.78	2.5	90	0.5	500	0.1	28
BZV55B43	42.14	43	43.86	2.5	90	0.5	600	0.1	32
BZV55B47	46.06	47	47.94	2.5	110	0.5	700	0.1	35
BZV55B51	49.98	51	52.02	2.5	125	0.5	700	0.1	38
BZV55B56	54.88	56	57.12	2.5	135	0.5	1000	0.1	42
BZV55B62	60.76	62	63.24	2.5	150	0.5	1000	0.1	47
BZV55B68	66.64	68	69.36	2.5	160	0.5	1000	0.1	51
BZV55B75	73.50	75	76.50	2.5	170	0.5	1000	0.1	56

Notes:

1. The Zener Voltage (V_Z) is tested under pulse condition of 10ms
2. The device numbers listed have a standard tolerance on the nominal zener voltage of ±2%.
3. For detailed information on price, availability and delivery of nominal zener voltages between the voltages shown and tighter voltage tolerances, contact your nearest **Taiwan semiconductor** representative.
4. The zener impedance is derived from the 60-cycle ac voltage, which results when an ac current having an rms value equal to 10% of the DC zener current (I_{ZT} or I_{ZK}) is superimposed to I_{ZT} or I_{ZK}.

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Rating and Shacteristic Curves

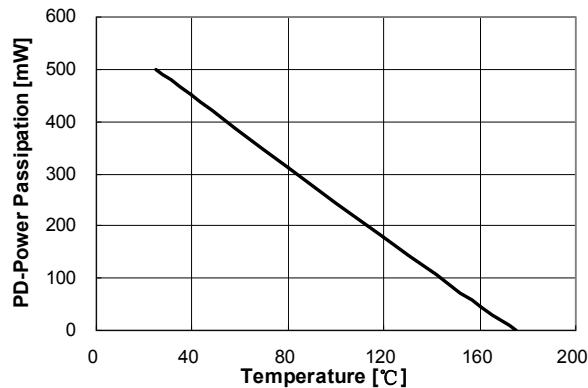


Figure 1. Power Dissipation vs Ambient Temperature
 Valid provided leads at a distance of 0.8mm from case are kept at ambient temperature

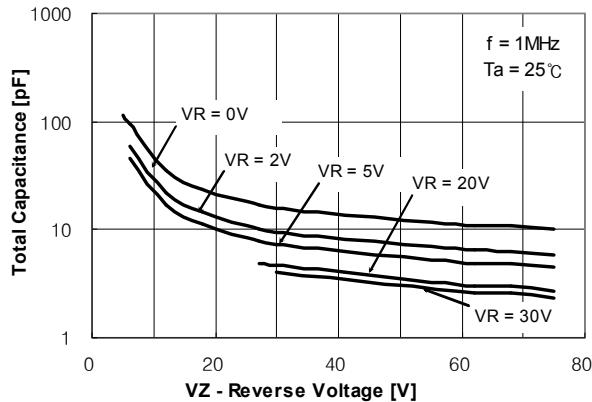


Figure 2. Total Capacitance

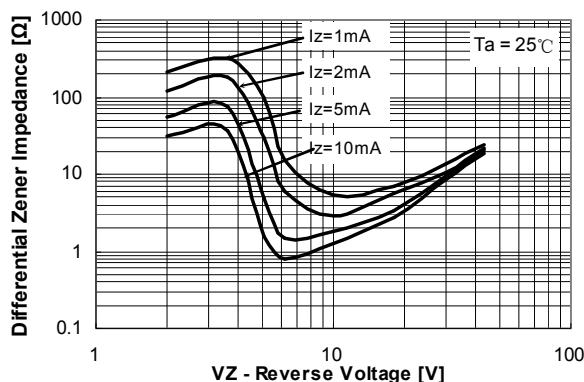


Figure 3. Differential Impedance vs. Zener Voltage

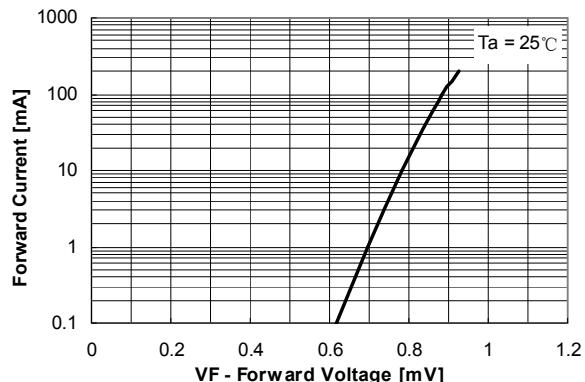


Figure 4. Forward Current vs. Forward Voltage

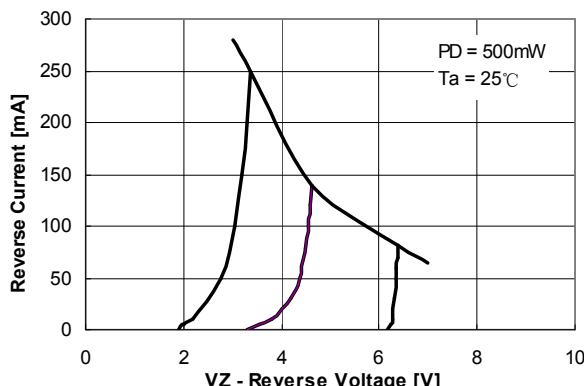


Figure 5. Reverse Current vs. Reverse Voltage

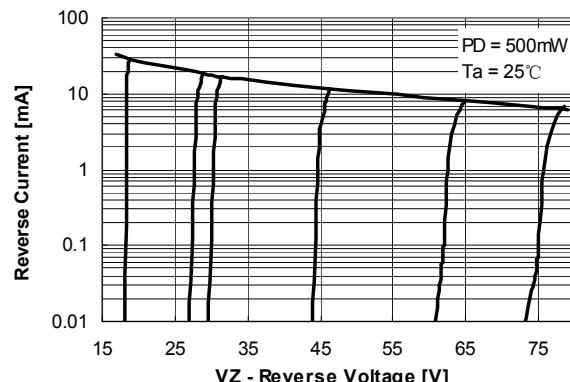
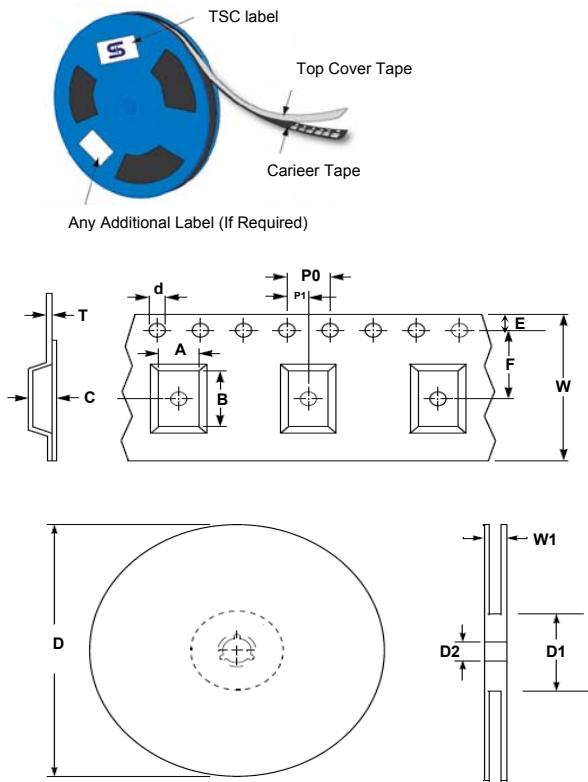


Figure 6. Reverse Current vs. Reverse Voltage

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Tape & Reel specification



Item	Symbol	Dimension(mm)
Carrier width	A	1.83 ± 0.10
Carrier length	B	3.73 ± 0.10
Carrier depth	C	1.80 ± 0.10
Sprocket hole	d	1.50 ± 0.10
Reel outside diameter	D	178 ± 1 330 ± 1
Reel inner diameter	D1	55 Min 100Min
Feed hole width	D2	13.0 ± 0.20
Sprocket hole position	E	1.75 ± 0.10
Punch hole position	F	3.50 ± 0.05
Sprocket hole pitch	P0	4.00 ± 0.10
Embossment center	P1	2.00 ± 0.05
Overall tape thickness	T	0.23 ± 0.005
Tape width	W	8.00 ± 0.30
Reel width	W1	14.4max

