

**Small Signal Diode**



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

**Features**

- ✧ Wide zener voltage range selection: 2.4V to 75V
- ✧ Vz 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

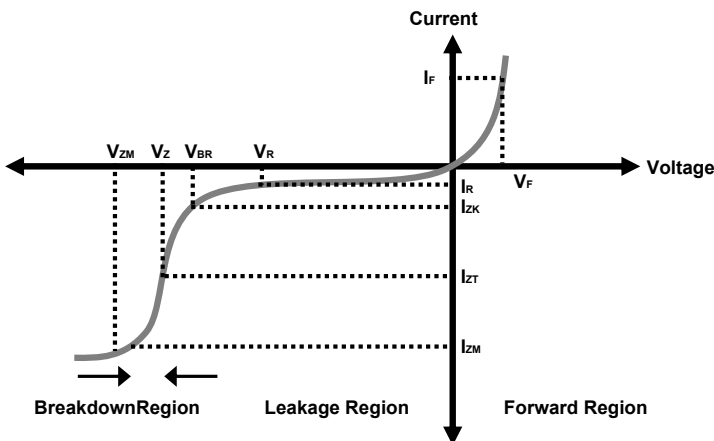
**Maximum Ratings and Electrical Characteristics**

Rating at 25°C ambient temperature unless otherwise specified.

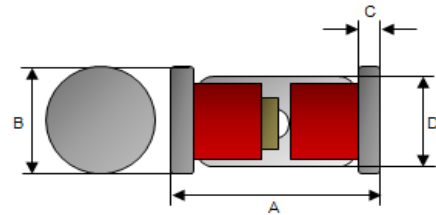
**Maximum Ratings**

Type Number	Symbol	Value	Units
Power Dissipation	P <sub>D</sub>	500	mW
Maximum Forward Voltage @I <sub>F</sub> =100mA	V <sub>F</sub>	1	V
Thermal Resistance (Junction to Ambient) (Note 1)	R <sub>θJA</sub>	300	°C/W
Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to + 175	°C

**Zener I vs.V Characteristics**

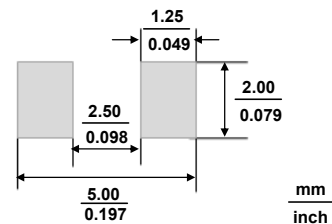


- V<sub>BR</sub>** : Voltage at I<sub>ZK</sub>
- I<sub>ZK</sub>** : Test current for voltage V<sub>BR</sub>
- Z<sub>ZK</sub>** : Dynamic impedance at I<sub>ZK</sub>
- I<sub>ZT</sub>** : Test current for voltage V<sub>Z</sub>
- V<sub>Z</sub>** : Voltage at current I<sub>ZT</sub>
- Z<sub>ZT</sub>** : Dynamic impedance at I<sub>ZT</sub>
- I<sub>ZM</sub>** : Maximum steady state current
- V<sub>ZM</sub>** : Voltage at I<sub>ZM</sub>



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**



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**Electrical Characteristics**

Ta = 25°C unless otherwise noted

V<sub>F</sub> Forward Voltage = 1.0V Maximum @ I<sub>F</sub> = 100 mA for all part numbers

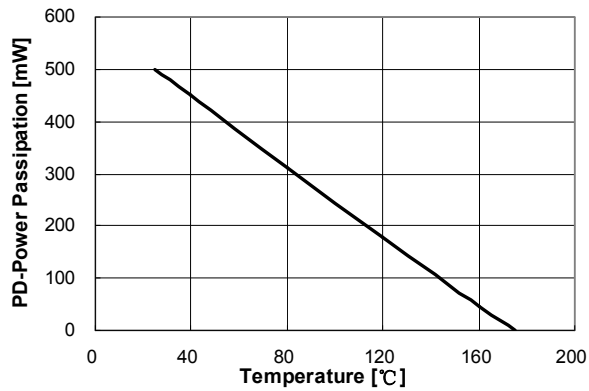
Part Number	V <sub>Z</sub> @ I <sub>ZT</sub> (Volt)			I <sub>ZT</sub> (mA)	Z <sub>TT</sub> @ I <sub>ZT</sub> (Ω) Max	I <sub>ZK</sub> (mA)	Z <sub>ZK</sub> @ I <sub>ZK</sub> (Ω) Max	I <sub>R</sub> @ V <sub>R</sub> (μA) Max	V <sub>R</sub> (V)
	Min	Nom	Max						
BZV55B2V4	2.35	2.4	2.45	5	85	1.0	600	50	1.0
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:**

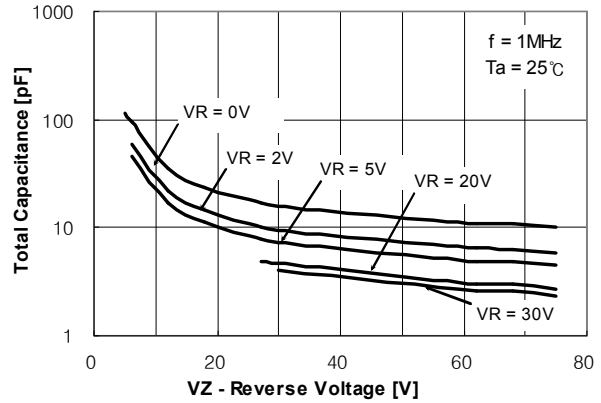
1. The Zener Voltage (V<sub>Z</sub>) is tested under pulse condition of 10ms
2. The device numbers listed have a standard tolerance on the nominal zener voltage of ±2%.
3. For detailed information on price, availability and delivery of nominal zener voltages between the voltages shown and tighter voltage 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<sub>ZT</sub> or I<sub>ZK</sub>) is superimposed to I<sub>ZT</sub> or I<sub>ZK</sub>.

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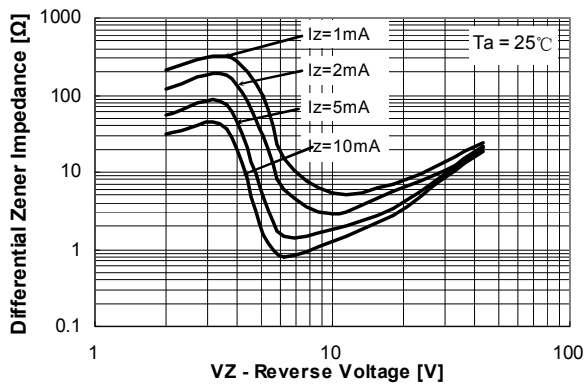
**Rating and Sharacteristic Curves**



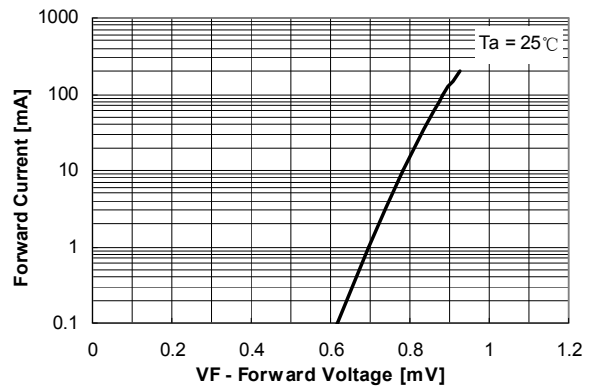
**Figure 1. Power Dissipation vs Ambient Temperature**  
 Valid provided leads at a distance of 0.8mm from case are kept at ambient temperature



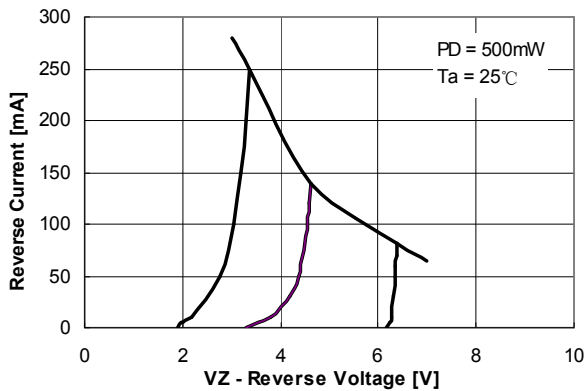
**Figure 2. Total Capacitance**



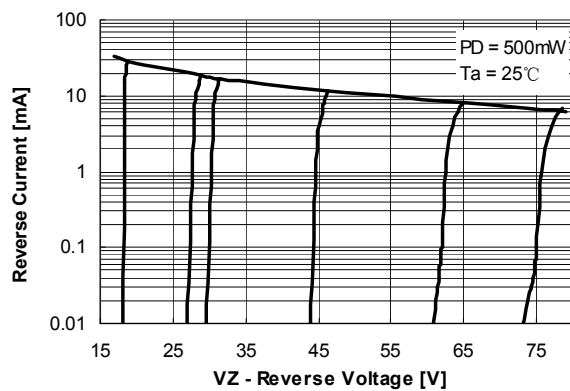
**Figure 3. Differential Impedance vs. Zener Voltage**



**Figure 4. Forward Current vs. Forward Voltage**



**Figure 5. Reverse Current vs. Reverse Voltage**

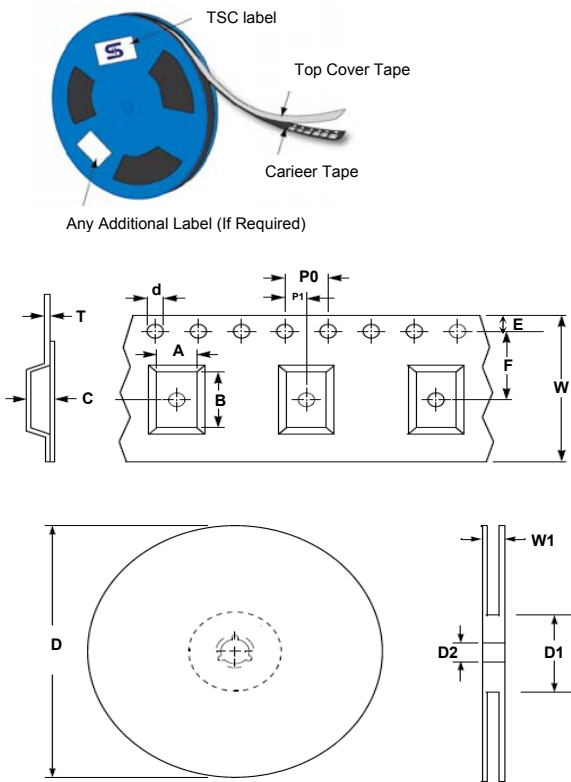


**Figure 6. Reverse Current vs. Reverse Voltage**

## Small Signal Diode

## BZV55B2V4-BZV55B75 500mW, 2% Tolerance Zener Diode

### 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

