

## LL34 SURFACE MOUNT ZENER DIODES

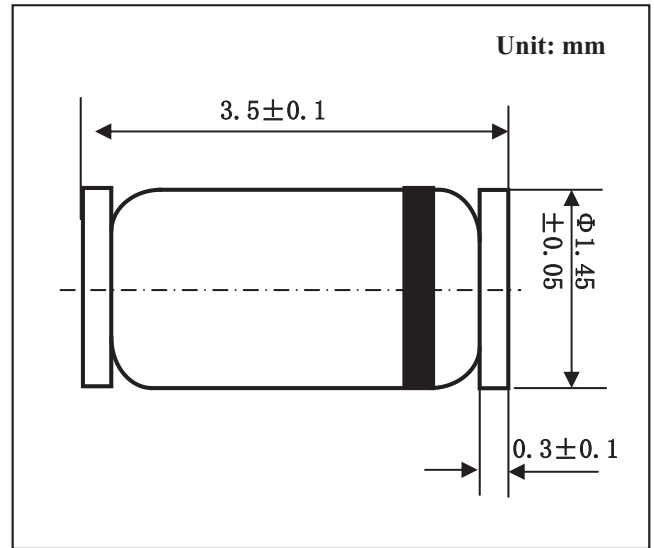
ZENER VOLTAGE RANGE: 2.4 --- 56V PEAK PULSE POWER:500mW

### Features

- Low Reverse Leakage
- Low Zener Impedance
- High Stability and High Reliability

### Mechanical Data

- Case: LL34 Glass Case
- Polarity: Color band denotes cathode end
- Mounting Position: Any



### MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified

Parameters	Symbol	Value	Unit
Power Dissipation	Pd	500 <sup>1)</sup>	mW
Operating junction temperature	Tj	175	°C
Storage temperature range	Ts	-55-+175	°C

1) Valid provided that leads are kept at ambient temperature at a distance of 8mm from case

### Electrical Specification (TA=25@25°C unless otherwise specified)

TYPE	Vz(V)			ZZT(Ω)			ZZK(Ω)		IR(μA)	
	NOM	MAX	IZT(mA)	Iz(mA)	Max.	IZT(mA)	MAX	IZK(mA)	MAX	VR(V)
ZMM5221B	2.4	2.28	2.52	20	30	20	1200	0.25	100	1
ZMM5222B	2.5	2.375	2.625	20	30	20	1250	0.25	100	1
ZMM5223B	2.7	2.565	2.835	20	30	20	1300	0.25	75	1
ZMM5224B	2.8	2.66	2.94	20	30	20	1400	0.25	75	1
ZMM5225B	3	2.85	3.15	20	29	20	1600	0.25	50	1
ZMM5226B	3.3	3.135	3.465	20	28	20	1600	0.25	25	1
ZMM5227B	3.6	3.42	3.78	20	24	20	1700	0.25	15	1
ZMM5228B	3.9	3.705	4.095	20	23	20	1900	0.25	10	1
ZMM5229B	4.3	4.085	4.515	20	22	20	2000	0.25	5	1
ZMM5230B	4.7	4.465	4.935	20	19	20	1900	0.25	5	2
ZMM5231B	5.1	4.845	5.355	20	17	20	1600	0.25	5	2
ZMM5232B	5.6	5.32	5.88	20	11	20	1600	0.25	5	3
ZMM5233B	6	5.7	6.3	20	7	20	1600	0.25	5	3.5
ZMM5234B	6.2	5.89	6.51	20	7	20	1000	0.25	5	4
ZMM5235B	6.8	6.46	7.14	20	5	20	750	0.25	3	5
ZMM5236B	7.5	7.125	7.875	20	6	20	500	0.25	3	6
ZMM5237B	8.2	7.79	8.61	20	8	20	500	0.25	3	6.5
ZMM5238B	8.7	8.265	9.135	20	8	20	600	0.25	3	6.5

## Electrical Specification (T<sub>A</sub>=25@25°C unless otherwise specified)

TYPE	V <sub>Z</sub> (V)				Z <sub>ZT</sub> (Ω)		Z <sub>ZK</sub> (Ω)		I <sub>R</sub> (μA)	
	NOM	MAX	I <sub>ZT</sub> (mA)	I <sub>Z</sub> (mA)	Max.	I <sub>ZT</sub> (mA)	MAX	I <sub>ZK</sub> (mA)	MAX	V <sub>R</sub> (V)
ZMM5239B	9.1	8.645	9.555	20.0	10.0	20.0	600	0.25	3	7.0
ZMM5240B	10	9.500	10.500	20.0	17.0	20.0	600	0.25	3	8.0
ZMM5241B	11	10.450	11.550	20.0	22.0	20.0	600	0.25	2	8.4
ZMM5242B	12	11.400	12.600	20.0	30.0	20.0	600	0.25	1	9.1
ZMM5243B	13	12.350	13.650	9.5	13.0	9.5	600	0.25	0.5	9.9
ZMM5244B	14	13.300	14.700	9.0	15.0	9.0	600	0.25	0.1	10.0
ZMM5245B	15	14.250	15.750	8.5	16.0	8.5	600	0.25	0.1	11.0
ZMM5246B	16	15.200	16.800	7.8	17.0	7.8	600	0.25	0.1	12.0
ZMM5247B	17	16.150	17.850	7.4	19.0	7.4	600	0.25	0.1	13.0
ZMM5248B	18	17.100	18.900	7.0	21.0	7.0	600	0.25	0.1	14.0
ZMM5249B	19	18.050	19.950	6.6	23.0	6.6	600	0.25	0.1	14.0
ZMM5250B	20	19.000	21.000	6.2	25.0	6.2	600	0.25	0.1	15.0
ZMM5251B	22	20.900	23.100	5.6	29.0	5.6	600	0.25	0.1	17.0
ZMM5252B	24	22.800	25.200	5.2	33.0	5.2	600	0.25	0.1	18.0
ZMM5253B	25	23.750	26.250	5.0	35.0	5.0	600	0.25	0.1	19.0
ZMM5254B	27	25.650	28.350	4.6	41.0	4.6	600	0.25	0.1	21.0
ZMM5255B	28	26.600	29.400	4.5	44.0	4.5	600	0.25	0.1	21.0
ZMM5256B	30	28.500	31.500	4.2	49.0	4.2	600	0.25	0.1	23.0
ZMM5257B	33	31.350	34.650	3.8	58.0	3.8	700	0.25	0.1	25.0
ZMM5258B	36	34.200	37.800	3.4	70.0	3.4	700	0.25	0.1	27.0
ZMM5259B	39	37.050	40.950	3.2	80.0	3.2	800	0.25	0.1	30.0
ZMM5260B	43	40.850	45.150	3.0	93.0	3.0	900	0.25	0.1	33.0
ZMM5261B	47	44.650	49.350	2.7	105.0	2.7	100	0.25	0.1	36.0
ZMM5262B	51	48.450	53.550	2.5	125.0	2.5	1100	0.25	0.1	39.0
ZMM5263B	56	53.200	58.800	2.2	150.0	2.2	1300	0.25	0.1	43.0

### Notes:

- 1) Standard Zener voltage tolerance is ±20%. Add suffix "A" for ±10% tolerance, suffix "B" for ±5% tolerance and suffix "C" for ±2% tolerance. Other tolerance, non standard and higher Zener voltages are upon request.
- 2) The Zener Impedance is derived from the 60 Hz AC voltage which results when an AC current having an RMS value equal to 10% of the Zener current (I<sub>ZT</sub> or I<sub>ZK</sub>) is superimposed on I<sub>ZT</sub> or I<sub>ZK</sub>. Zener Impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units.
- 3) Valid provided that electrodes are kept at ambient temperature.
- 4) Measured under thermal equilibrium and DC test conditions.
- 5) Tested with pulses t<sub>p</sub> = 20 ms.
- 6) V<sub>F</sub>(Max)=1.10V@ I<sub>F</sub>=200mA