

500 mW LL-34 Hermetically Sealed Glass Zener Voltage Regulators



SURFACE MOUNT
LL34

Absolute Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise noted

Parameter	Value	Units
Power Dissipation	500	mW
Storage Temperature Range	-65 to +175	$^\circ\text{C}$
Operating Junction Temperature	+175	$^\circ\text{C}$

These ratings are limiting values above which the serviceability of the diode may be impaired.

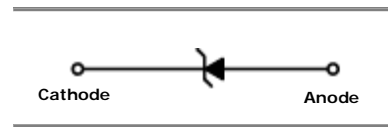
DEVICE MARKING DIAGRAM



Cathode Band Color : Blue

Specification Features:

- § Zener Voltage Range 2.0 to 75 Volts
- § LL-34 (Mini-MELF) Package
- § Surface Device Type Mounting
- § Hermetically Sealed Glass
- § Compression Bonded Construction
- § All External Surfaces Are Corrosion Resistant And Terminals Are Readily Solderable
- § RoHS Compliant
- § Matte Tin (Sn) Terminal Finish
- § Color band Indicates Negative Polarity



ELECTRICAL SYMBOL

Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

Device Type	$V_Z @ I_{ZT}$ (Volts) Nominal	I_{ZT} (mA)	$Z_{ZT} @ I_{ZT}$ (Ω) Max	$I_R @ V_R$ (μA) Max	V_R (Volts)
CMLLZ2V0	2.0	5	100	120	0.5
CMLLZ2V2	2.2	5	100	120	0.7
CMLLZ2V4	2.4	5	100	120	1
CMLLZ2V7	2.7	5	110	100	1
CMLLZ3V0	3.0	5	120	50	1
CMLLZ3V3	3.3	5	120	20	1
CMLLZ3V6	3.6	5	100	10	1
CMLLZ3V9	3.9	5	100	5	1
CMLLZ4V3	4.3	5	100	5	1
CMLLZ4V7	4.7	5	80	5	1
CMLLZ5V1	5.1	5	80	5	1.5
CMLLZ5V6	5.6	5	60	5	2.5
CMLLZ6V2	6.2	5	60	5	3
CMLLZ6V8	6.8	5	20	2	3.5
CMLLZ7V5	7.5	5	20	0.5	4
CMLLZ8V2	8.2	5	20	0.5	5
CMLLZ9V1	9.1	5	25	0.5	6
CMLLZ10V	10	5	30	0.2	7
CMLLZ11V	11	5	30	0.2	8
CMLLZ12V	12	5	30	0.2	9

Electrical Characteristics T_A = 25°C unless otherwise noted

Device Type	V _Z @ I _{ZT} (Volts) Nominal	I _{ZT} (mA)	Z _{ZT} @ I _{ZT} (Ω) Max	I _R @ V _R (μA) Max	V _R (Volts)
CMLLZ13V	13	5	35	0.2	10
CMLLZ15V	15	5	40	0.2	11
CMLLZ16V	16	5	40	0.2	12
CMLLZ18V	18	5	45	0.2	13
CMLLZ20V	20	5	45	0.2	15
CMLLZ22V	22	5	30	0.2	17
CMLLZ24V	24	5	35	0.2	19
CMLLZ27V	27	2	45	0.2	21
CMLLZ30V	30	2	55	0.2	23
CMLLZ33V	33	2	65	0.2	25
CMLLZ36V	36	2	75	0.2	27
CMLLZ39V	39	2	85	0.2	30
CMLLZ43V	43	2	90	0.2	33
CMLLZ47V	47	2	90	0.2	36
CMLLZ51V	51	2	110	0.2	39
CMLLZ56V	56	2	110	0.2	43
CMLLZ62V	62	2	201	0.2	47
CMLLZ68V	68	2	230	0.2	51
CMLLZ75V	75	2	240	0.2	56

V_F Forward Voltage = 1.2 V Maximum @ I_F = 200 mA for all types

Notes:

1. The type numbers listed have zener voltage min/max limits as shown and have a standard tolerance on the nominal zener voltage of 5%.
2. For detailed information on price, availability and delivery of nominal zener voltages between the voltages shown and tighter voltage tolerances, contact your nearest Tak Cheong Electronics representative.
3. 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}.

Typical Characteristics

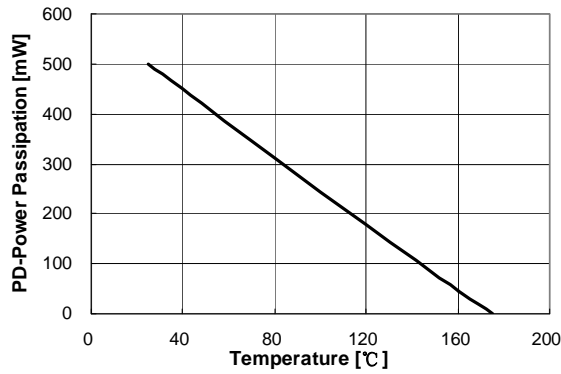


Figure 1. Power Dissipation vs Ambient Temperature
Valid provided leads at a distance of 0.8mm from case are kept at ambient temperature

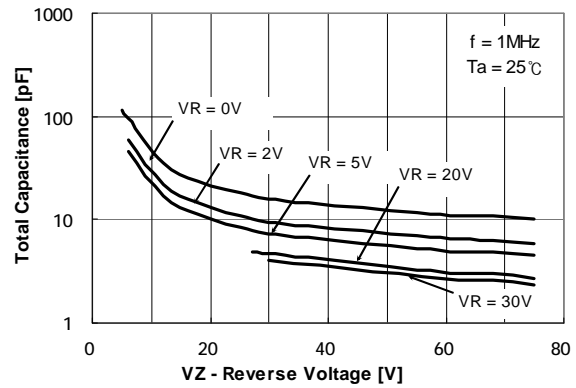


Figure 2. Total Capacitance

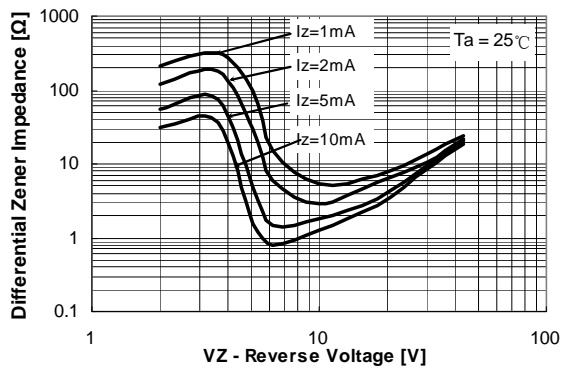


Figure 3. Differential Impedance vs. Zener Voltage

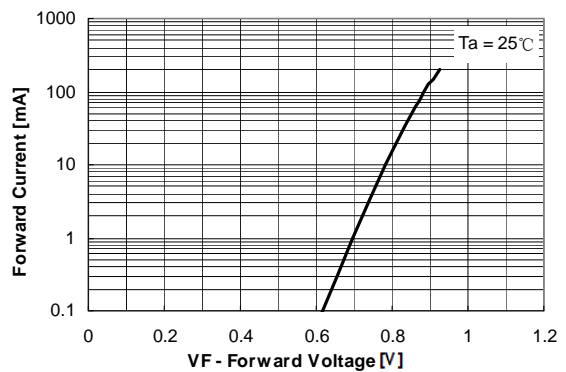


Figure 4. Forward Current vs. Forward Voltage

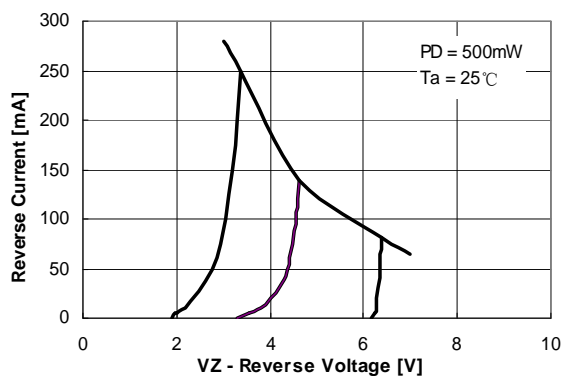


Figure 5. Reverse Current vs. Reverse Voltage

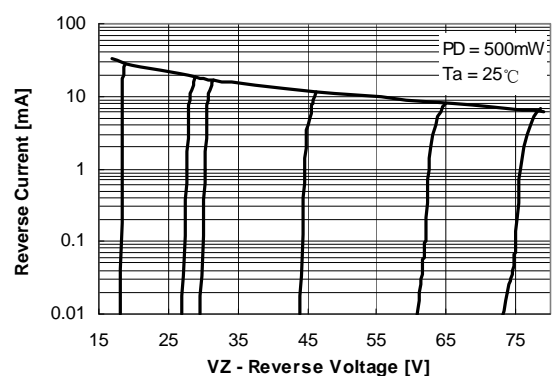
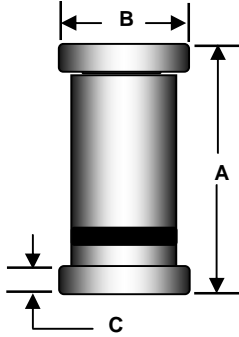


Figure 6. Reverse Current vs. Reverse Voltage

Package Outline

Package	Case Outline																																
LL34		<table border="1"> <thead> <tr> <th rowspan="3">DIM</th> <th colspan="4">LL-34</th> </tr> <tr> <th colspan="2">Millimeters</th> <th colspan="2">Inches</th> </tr> <tr> <th>Min</th> <th>Max</th> <th>Min</th> <th>Max</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>3.30</td> <td>3.60</td> <td>0.130</td> <td>0.142</td> </tr> <tr> <td>B</td> <td>1.40</td> <td>1.50</td> <td>0.055</td> <td>0.059</td> </tr> <tr> <td>C</td> <td>0.35</td> <td>0.50</td> <td>0.014</td> <td>0.020</td> </tr> </tbody> </table>				DIM	LL-34				Millimeters		Inches		Min	Max	Min	Max	A	3.30	3.60	0.130	0.142	B	1.40	1.50	0.055	0.059	C	0.35	0.50	0.014	0.020
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Notes:

1. All dimensions are within DO213AC JEDEC standard.
2. LL-34 polarity denoted by cathode band.