

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.

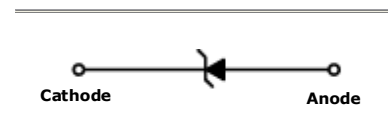
DEVICE MARKING DIAGRAM



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) |
|-------------|--------------------------------------|------------------|--|---|------------------|
| TCLLZ2V0 | 2.0 | 5 | 100 | 120 | 0.5 |
| TCLLZ2V2 | 2.2 | 5 | 100 | 120 | 0.7 |
| TCLLZ2V4 | 2.4 | 5 | 100 | 120 | 1 |
| TCLLZ2V7 | 2.7 | 5 | 110 | 100 | 1 |
| TCLLZ3V0 | 3.0 | 5 | 120 | 50 | 1 |
| TCLLZ3V3 | 3.3 | 5 | 120 | 20 | 1 |
| TCLLZ3V6 | 3.6 | 5 | 100 | 10 | 1 |
| TCLLZ3V9 | 3.9 | 5 | 100 | 5 | 1 |
| TCLLZ4V3 | 4.3 | 5 | 100 | 5 | 1 |
| TCLLZ4V7 | 4.7 | 5 | 80 | 5 | 1 |
| TCLLZ5V1 | 5.1 | 5 | 80 | 5 | 1.5 |
| TCLLZ5V6 | 5.6 | 5 | 60 | 5 | 2.5 |
| TCLLZ6V2 | 6.2 | 5 | 60 | 5 | 3 |
| TCLLZ6V8 | 6.8 | 5 | 20 | 2 | 3.5 |
| TCLLZ7V5 | 7.5 | 5 | 20 | 0.5 | 4 |
| TCLLZ8V2 | 8.2 | 5 | 20 | 0.5 | 5 |
| TCLLZ9V1 | 9.1 | 5 | 25 | 0.5 | 6 |
| TCLLZ10V | 10 | 5 | 30 | 0.2 | 7 |
| TCLLZ11V | 11 | 5 | 30 | 0.2 | 8 |
| TCLLZ12V | 12 | 5 | 30 | 0.2 | 9 |

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) |
|-------------|--------------------------------------|------------------|--|---|------------------|
| TCLLZ13V | 13 | 5 | 35 | 0.2 | 10 |
| TCLLZ15V | 15 | 5 | 40 | 0.2 | 11 |
| TCLLZ16V | 16 | 5 | 40 | 0.2 | 12 |
| TCLLZ18V | 18 | 5 | 45 | 0.2 | 13 |
| TCLLZ20V | 20 | 5 | 45 | 0.2 | 15 |
| TCLLZ22V | 22 | 5 | 30 | 0.2 | 17 |
| TCLLZ24V | 24 | 5 | 35 | 0.2 | 19 |
| TCLLZ27V | 27 | 2 | 45 | 0.2 | 21 |
| TCLLZ30V | 30 | 2 | 55 | 0.2 | 23 |
| TCLLZ33V | 33 | 2 | 65 | 0.2 | 25 |
| TCLLZ36V | 36 | 2 | 75 | 0.2 | 27 |
| TCLLZ39V | 39 | 2 | 85 | 0.2 | 30 |
| TCLLZ43V | 43 | 2 | 90 | 0.2 | 33 |
| TCLLZ47V | 47 | 2 | 90 | 0.2 | 36 |
| TCLLZ51V | 51 | 2 | 110 | 0.2 | 39 |
| TCLLZ56V | 56 | 2 | 110 | 0.2 | 43 |
| TCLLZ62V | 62 | 2 | 201 | 0.2 | 47 |
| TCLLZ68V | 68 | 2 | 230 | 0.2 | 51 |
| TCLLZ75V | 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

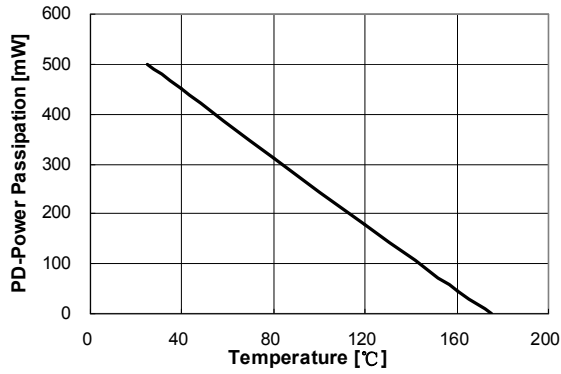


Figure 1. Power Dissipation vs Ambient Temperature
Valid provided leads at a distance of 0.8mm from case are kept at ambient temperature

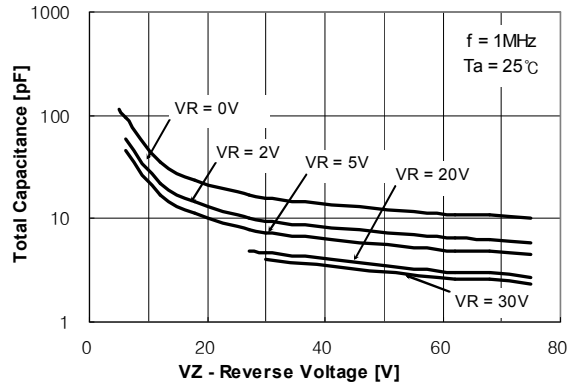


Figure 2. Total Capacitance

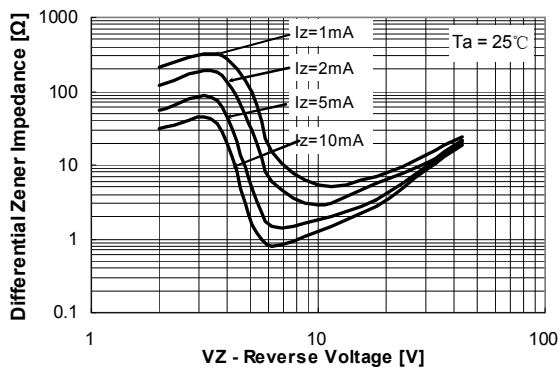


Figure 3. Differential Impedance vs. Zener Voltage

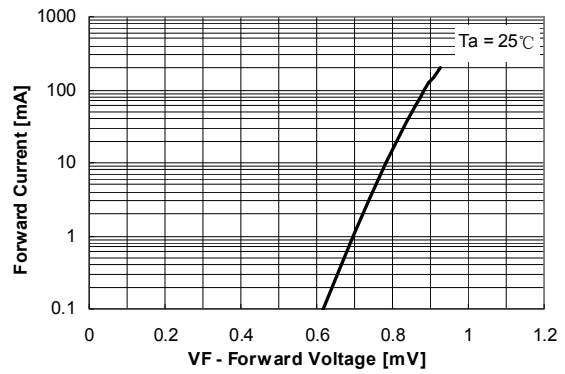


Figure 4. Forward Current vs. Forward Voltage

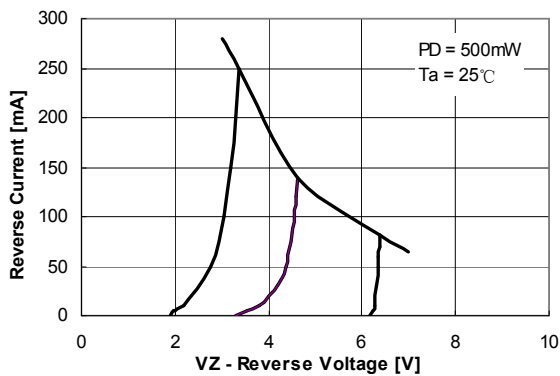


Figure 5. Reverse Current vs. Reverse Voltage

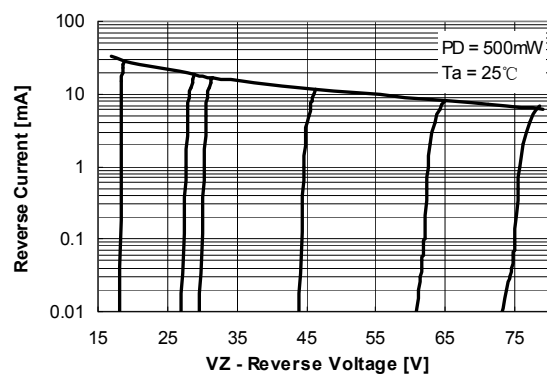
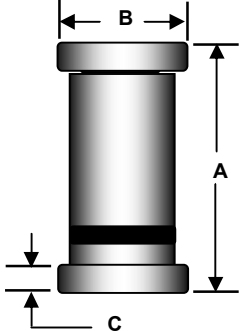


Figure 6. Reverse Current vs. Reverse Voltage

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 |
| 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 | | | | | | | | | | | | | | | | | | | | | | | | | | |

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

NOTICE

The information presented in this document is for reference only. Tak Cheong reserves the right to make changes without notice for the specification of the products displayed herein.

The product listed herein is designed to be used with ordinary electronic equipment or devices, and not designed to be used with equipment or devices which require high level of reliability and the malfunction of which would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Tak Cheong Semiconductor Co., Ltd., or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website <http://www.takcheong.com>, or consult your nearest Tak Cheong's sales office for further assistance.

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Zener Diodes](#) category:

Click to view products by [Tak Cheong](#) manufacturer:

Other Similar products are found below :

[RKZ13B2KG#P1](#) [DL5234B](#) [EDZTE6113B](#) [1N4682](#) [1N4691](#) [1N4693](#) [1N4732A](#) [1N4736A](#) [1N4750A](#) [1N4759ARL](#) [1N5241B](#) [1N5365B](#)
[1N5369B](#) [1N747A](#) [1N959B](#) [1N964B](#) [1N966B](#) [1N968B](#) [1N972B](#) [NTE5121A](#) [NTE5147A](#) [NTE5152A](#) [NTE5155A](#) [NTE5164A](#)
[JANS1N4974US](#) [1N4692](#) [1N4700](#) [1N4702](#) [1N4704](#) [1N4711](#) [1N4714](#) [1N4737A](#) [1N4745ARL](#) [1N4752A](#) [1N4752ARL](#) [1N4760ARL](#)
[1N5221B](#) [1N5236B](#) [1N5241BTR](#) [1N5242BTR](#) [1N5350B](#) [1N5352B](#) [1N961BRR1](#) [1N964BRL](#) [RKZ5.1BKU#P6](#) [3SMAJ5946B-TP](#)
[3SMAJ5950B-TP](#) [3SMBJ5925B-TP](#) [441774C](#) [BZX84C3V9](#)