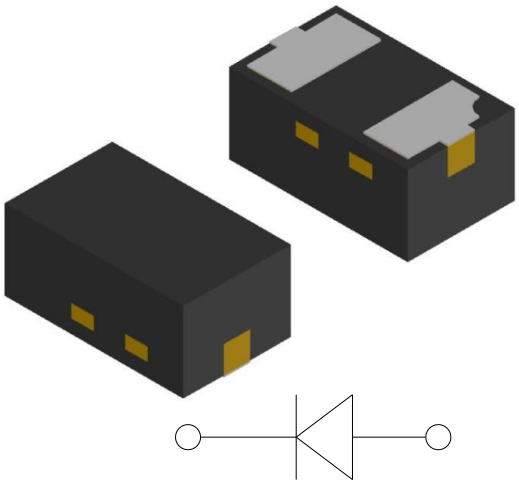
# Zener Diodes



## Features

- Moisture sensitivity level 3
- Zener voltage 3.6V~36V

## Application

- Linear voltage regulator
- DC regulator
- Small-signal surge protection

## Mechanical data

- **Package**: DFN1006-2L
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102

## ■Maximum Ratings (Ta=25℃ Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | Conditions | VALUE |
|---|---|---|---|---|
| Maximum Forward Voltage | $V_F$ | V | $I_F$=10mA | 1 |
| Maximum Regulator Current | $I_{ZM}$ | mA | | $P_D$/ $V_z$ |
| Power dissipation | $P_D$ | mW | | 100 |
| Junction temperature | $T_j$ | ℃ | | 150 |
| Storage temperature range | $T_{stg}$ | ℃ | | -55 ~+150 |

## ■Ordering Information (Example)

| PREFERED P/N | UNIT WEIGHT(mg) | MINIIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|---|---|---|---|---|---|
| BZT52B3V6L3P THRU BZT52B36L3P | Approximate 0.9 | 10K | 100K | 400K | Tape & Reel |

## ■Electrical Characteristics（$T_a$=25℃ Unless otherwise specified）

| Type Number | Device Marking | $V_z$ at Izt (V) | | | $Z_{zt}$(Ω) | | $Z_{zk}$(Ω) | | $I_R$(μA)@$V_R$ | | Diode capacitance Cd (pF) | Non-repetitive peak reverse current Izsm (A) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | min. | typ. | max. | $I_{ZT}$(mA) | max. | $I_{zk}$(mA) | max. | max | $V_R$(V) | max | max |
| BZT52B3V6L3P | 2W4 | 3.53 | 3.6 | 3.67 | 5 | 95 | 1.0 | 600 | 15 | 1.0 | 450 | 4.5 |
| BZT52B3V9L3P | 2W5 | 3.82 | 3.9 | 3.98 | 5 | 95 | 1.0 | 600 | 10 | 1.0 | 450 | 4.5 |
| BZT52B4V3L3P | 2W6 | 4.21 | 4.3 | 4.39 | 5 | 95 | 1.0 | 600 | 5 | 1.0 | 450 | 3.5 |
| BZT52B4V7L3P | 2W7 | 4.61 | 4.7 | 4.79 | 5 | 78 | 1.0 | 500 | 1 | 1.0 | 300 | 3.5 |
| BZT52B5V1L3P | 2W8 | 5.0 | 5.1 | 5.2 | 5 | 60 | 1.0 | 480 | 0.1 | 0.8 | 300 | 3 |
| BZT52B5V6L3P | 2W9 | 5.49 | 5.6 | 5.71 | 5 | 40 | 1.0 | 400 | 0.1 | 1.0 | 200 | 3 |
| BZT52B6V2L3P | 2WA | 6.08 | 6.2 | 6.32 | 5 | 10 | 1.0 | 150 | 0.1 | 2.0 | 200 | 3 |
| BZT52B6V8L3P | 2WB | 6.66 | 6.8 | 6.94 | 5 | 8 | 1.0 | 80 | 0.1 | 3.0 | 200 | 2 |
| BZT52B7V5L3P | 2WC | 7.35 | 7.5 | 7.65 | 5 | 7 | 1.0 | 80 | 0.1 | 5.0 | 150 | 2 |
| BZT52B8V2L3P | 2WD | 8.04 | 8.2 | 8.36 | 5 | 7 | 1.0 | 80 | 0.1 | 6.0 | 150 | 2 |
| BZT52B9V1L3P | 2WE | 8.92 | 9.1 | 9.28 | 5 | 10 | 1.0 | 100 | 0.1 | 6.8 | 150 | 1.8 |
| BZT52B10L3P | 2WF | 9.8 | 10 | 10.2 | 5 | 15 | 1.0 | 150 | 0.1 | 7.5 | 90 | 1.8 |
| BZT52B11L3P | 2WG | 10.78 | 11 | 11.22 | 5 | 20 | 1.0 | 150 | 0.1 | 8.2 | 85 | 1.8 |
| BZT52B12L3P | 2WH | 11.76 | 12 | 12.24 | 5 | 20 | 1.0 | 150 | 0.1 | 9.0 | 85 | 1.8 |
| BZT52B13L3P | 2WI | 12.74 | 13 | 13.26 | 5 | 26 | 1.0 | 170 | 0.1 | 9.7 | 80 | 1 |
| BZT52B15L3P | 2WJ | 14.7 | 15 | 15.3 | 5 | 30 | 1.0 | 200 | 0.1 | 11.0 | 75 | 1 |
| BZT52B16L3P | 2WK | 15.68 | 16 | 16.32 | 5 | 40 | 1.0 | 200 | 0.1 | 12 | 75 | 1 |
| BZT52B18L3P | 2WL | 17.64 | 18 | 18.36 | 5 | 50 | 1.0 | 225 | 0.1 | 14.0 | 70 | 1 |
| BZT52B20L3P | 2WM | 19.6 | 20 | 20.4 | 5 | 55 | 1.0 | 225 | 0.1 | 15.0 | 60 | 1 |
| BZT52B22L3P | 2WN | 21.56 | 22 | 22.44 | 5 | 55 | 1.0 | 250 | 0.1 | 17.0 | 60 | 0.6 |
| BZT52B24L3P | 2WO | 23.52 | 24 | 24.48 | 5 | 70 | 1.0 | 250 | 0.1 | 18.0 | 55 | 0.6 |
| BZT52B27L3P | 2WP | 26.46 | 27 | 27.54 | 5 | 80 | 1.0 | 300 | 0.1 | 20.0 | 50 | 0.6 |
| BZT52B30L3P | 2WQ | 29.4 | 30 | 30.6 | 5 | 80 | 1.0 | 300 | 0.1 | 22 | 50 | 0.6 |
| BZT52B33L3P | 2WR | 32.34 | 33 | 33.66 | 5 | 80 | 1.0 | 325 | 0.1 | 24.0 | 45 | 0.6 |
| BZT52B36L3P | 2WS | 35.28 | 36 | 36.72 | 5 | 90 | 1.0 | 350 | 0.1 | 27.0 | 45 | 0.6 |

## ■ Characteristics (Typical)

**Fig 1：$P_D$-Ta Curve**

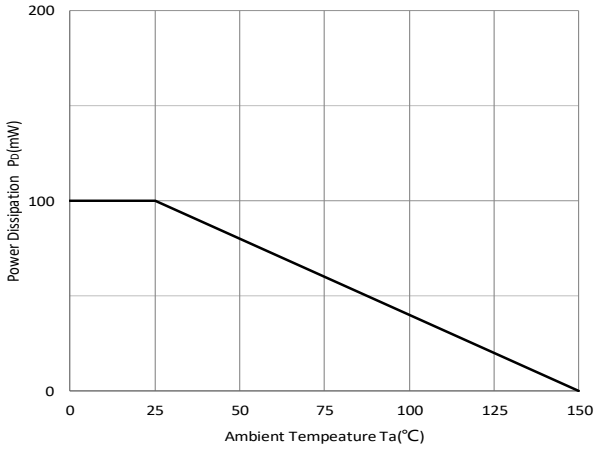



**Fig 2：Zener Breakdown Characteristics**

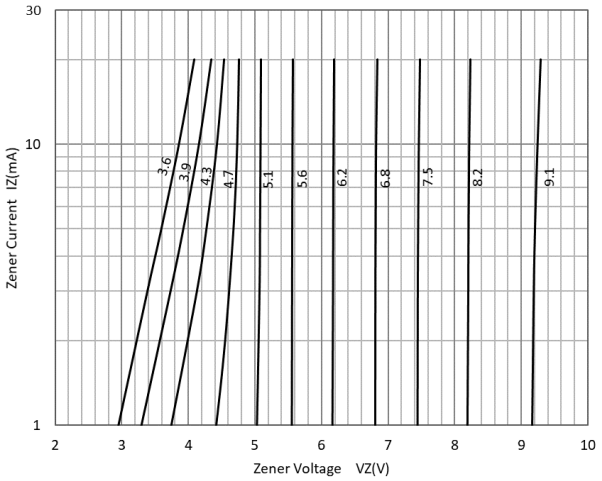



**Fig 3：Zener Breakdown Characteristics**

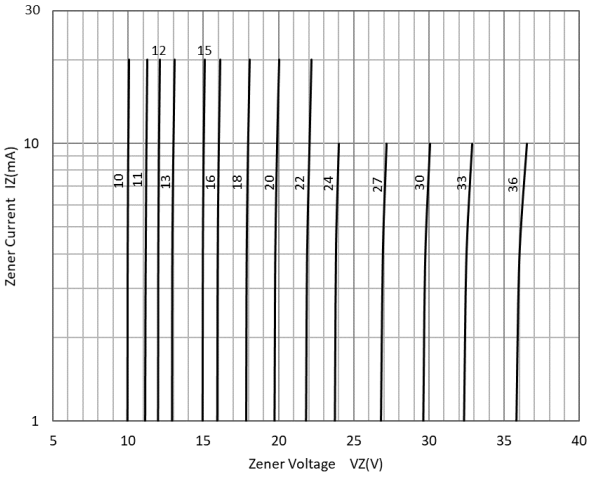



**Fig 4：Typical Temperature Coeffient**

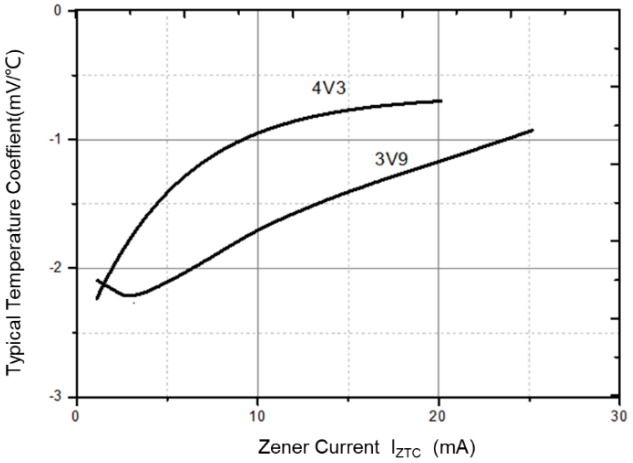



**Fig 5：Typical Temperature Coeffient**

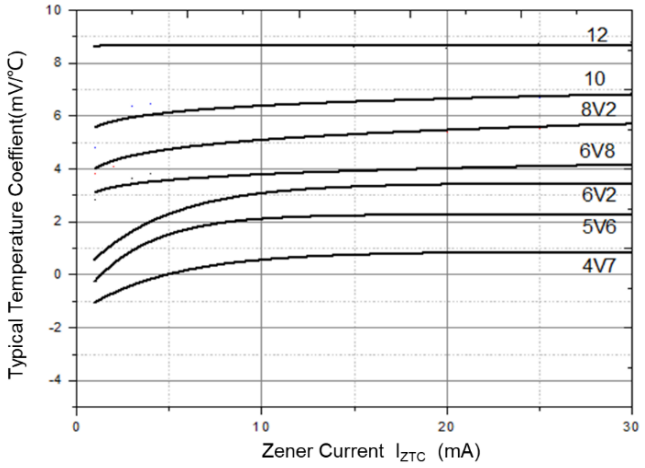



**Fig 6：Typical Temperature Coeffient**

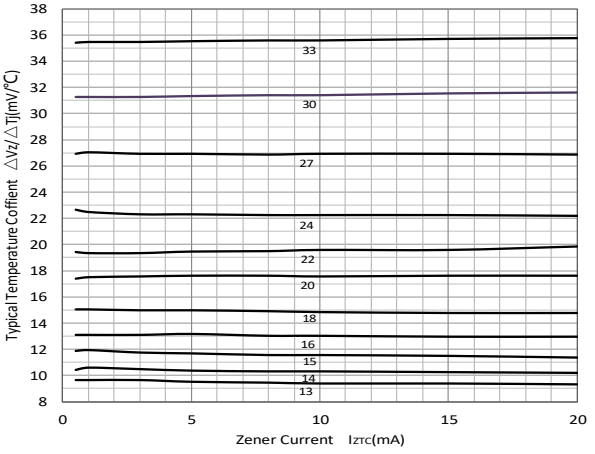


**Fig 7：Typical Reverse Current**

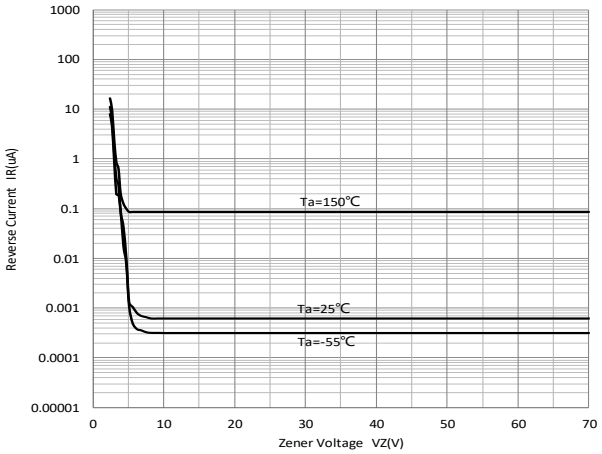



**Fig 8：Typical Capacitance**

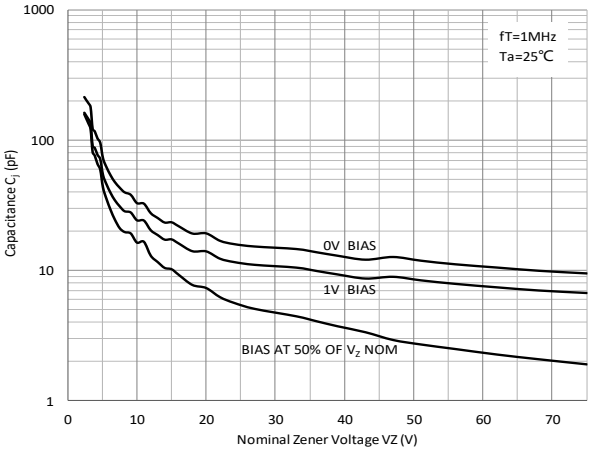
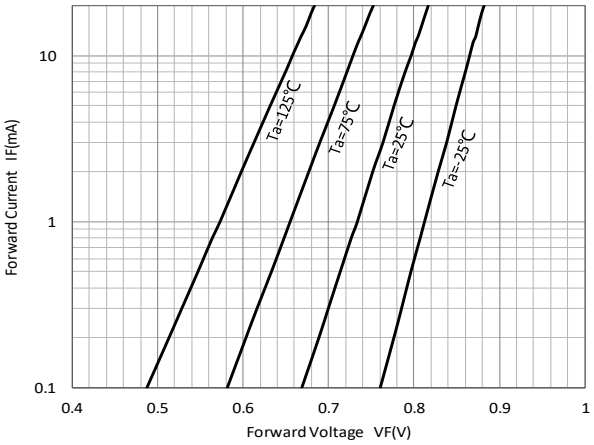
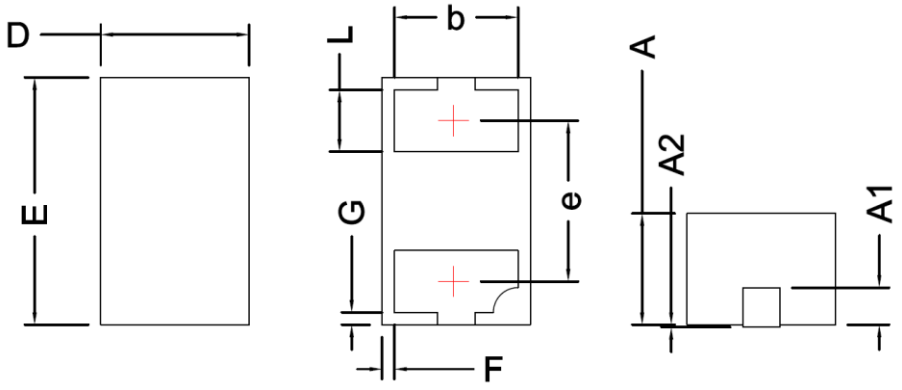



**Fig 9：Typical Forward Voltage**

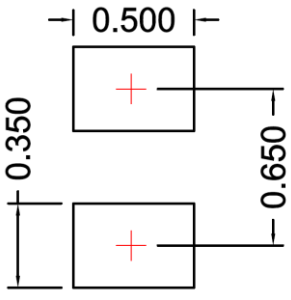


## ■Outline Dimensions




| SYMBOL | MILLIMETER | | |
|---|---|---|---|
| | MIN | NOM | MAX |
| D | 0.50 | 0.60 | 0.70 |
| E | 0.90 | 1.00 | 1.10 |
| A | 0.35 | 0.45 | 0.55 |
| A1 | | 0.15 BSC | |
| A2 | | | 0.10 |
| F | 0.005 | | |
| G | 0.005 | | |
| L | 0.15 | 0.25 | 0.35 |
| b | 0.41 | 0.50 | 0.59 |
| e | | 0.65 BSC | |

## ■ Soldering Footprint




Unit：mm

## Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

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 with would directly endanger human life (such as medical instruments, transportation equipment, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), Yangjie 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.21yangjie.com , or consult your nearest Yangjie's sales office for further assistance.