DISTRIBUTEUR : JBG-METAFIX

Hottech Semiconductor

# ZMM2V0-150

ZENER DIODES

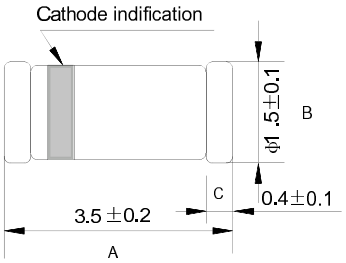
## FEATURES

- Low zener impedance
- Low regulation factor
- Glass passivated junction
- High temperature soldering guaranteed 260°C/10S at terminals

LL34 (SOD-80)

## MECHANICAL DATA

- Case: MINI MELF molded glass body
- Terminals: Plated axial leads, solderable per MIL-STD 750, method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.04 grams (approx.)




Dimensions in millimeters

## Maximum Ratings (TA=25 °C unless otherwise noted)

| Characteristic | Symbol | Value | Unit |
|---|---|---|---|
| Power Dissipation at Tamb=25 C(Note 1) | $P_{tot}$ | 500 | mW |
| Forward voltage at IF=100mA | $V_F$ | 1.0 | V |
| Junction Temperature | $T_j$ | 200 | °C |
| Storage Temperature Range | $T_{STG}$ | -65 to + 200 | °C |
| Thermal resistance junction ambient(Note 1) | $R_{qJA}$ | 0.3 | K/mW |

Note 1: Valid provided that leads at a distance of 10mm from case are kept at ambient temperature

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## ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

| Device Type | Nominal ZenerVoltage Vz@$I_{ZT}$ | | Test Current $I_{ZT}$ | Maximum Zener Impedance | | | Maximum Reverse Leakage Current | | Typical Temperature Coefficient | Maximum RegulatorCurrent $I_{ZM}$ |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | $Z_{ZT}$@$I_{ZT}$ | $Z_{Zk}$@$I_{ZK}$ | $I_{ZK}$ | $I_R$ | @$V_R$ | | |
| | Min | Max | mA | Ohms | Ohms | mA | μA | Volts | (%/°C) | mA |
| ZMM2V0 | 1.90 | 2.10 | 5 | 100 | 600 | 1 | 150 | 1 | -0.085 | 165 |
| ZMM2V2 | 2.09 | 2.31 | 5 | 100 | 600 | 1 | 150 | 1 | -0.085 | 165 |
| ZMM2V4 | 2.28 | 2.56 | 5 | 85 | 600 | 1 | 50 | 1 | -0.085 | 155 |
| ZMM2V7 | 2.5 | 2.9 | 5 | 85 | 600 | 1 | 10 | 1 | -0.08 | 135 |
| ZMM3V0 | 2.8 | 3.2 | 5 | 85 | 600 | 1 | 4 | 1 | -0.075 | 125 |
| ZMM3V3 | 3.1 | 3.5 | 5 | 85 | 600 | 1 | 2 | 1 | -0.07 | 115 |
| ZMM3V6 | 3.4 | 3.8 | 5 | 85 | 600 | 1 | 2 | 1 | -0.065 | 105 |
| ZMM3V9 | 3.7 | 4.1 | 5 | 85 | 600 | 1 | 2 | 1 | -0.06 | 95 |
| ZMM4V3 | 4 | 4.6 | 5 | 75 | 600 | 1 | 1 | 1 | 0.055 | 90 |
| ZMM4V7 | 4.4 | 5 | 5 | 60 | 600 | 1 | 0.5 | 1 | 0.03 | 85 |
| ZMM5V1 | 4.8 | 5.4 | 5 | 35 | 550 | 1 | 0.1 | 1 | 0.03 | 80 |
| ZMM5V6 | 5.2 | 6 | 5 | 25 | 450 | 1 | 0.1 | 1 | 0.038 | 70 |
| ZMM6V2 | 5.8 | 6.6 | 5 | 10 | 200 | 1 | 0.1 | 2 | 0.045 | 64 |
| ZMM6V8 | 6.4 | 7.2 | 5 | 8 | 150 | 1 | 0.1 | 3 | 0.05 | 58 |
| ZMM7V5 | 7 | 7.9 | 5 | 7 | 50 | 1 | 0.1 | 5 | 0.058 | 53 |
| ZMM8V2 | 7.7 | 8.7 | 5 | 7 | 50 | 1 | 0.1 | 6.2 | 0.062 | 74 |
| ZMM9V1 | 8.5 | 9.6 | 5 | 10 | 50 | 1 | 0.1 | 6.8 | 0.068 | 43 |
| ZMM10 | 9.4 | 10.6 | 5 | 15 | 70 | 1 | 0.1 | 7.5 | 0.075 | 40 |
| ZMM11 | 10.4 | 11.6 | 5 | 20 | 70 | 1 | 0.1 | 8.2 | 0.076 | 36 |
| ZMM12 | 11.4 | 12.7 | 5 | 20 | 90 | 1 | 0.1 | 9.1 | 0.077 | 32 |
| ZMM13 | 12.4 | 14.1 | 5 | 26 | 110 | 1 | 0.1 | 10 | 0.079 | 29 |
| ZMM15 | 13.8 | 15.6 | 5 | 30 | 110 | 1 | 0.1 | 11 | 0.082 | 27 |
| ZMM16 | 15.3 | 17.1 | 5 | 40 | 170 | 1 | 0.1 | 12 | 0.083 | 24 |
| ZMM18 | 16.8 | 19.1 | 5 | 50 | 170 | 1 | 0.1 | 13 | 0.085 | 21 |
| ZMM20 | 18.8 | 21.2 | 5 | 55 | 220 | 1 | 0.1 | 15 | 0.086 | 20 |
| ZMM22 | 20.8 | 23.3 | 5 | 55 | 220 | 1 | 0.1 | 16 | 0.087 | 18 |
| ZMM24 | 22.8 | 25.6 | 5 | 80 | 220 | 1 | 0.1 | 18 | 0.088 | 16 |
| ZMM27 | 25.1 | 28.9 | 5 | 80 | 220 | 1 | 0.1 | 20 | 0.09 | 14 |
| ZMM30 | 28 | 32 | 5 | 80 | 220 | 1 | 0.1 | 22 | 0.091 | 13 |
| ZMM33 | 31 | 35 | 5 | 80 | 220 | 1 | 0.1 | 24 | 0.092 | 12 |
| ZMM36 | 34 | 38 | 5 | 80 | 220 | 1 | 0.1 | 27 | 0.093 | 11 |
| ZMM39 | 37 | 41 | 2.5 | 90 | 500 | 0.5 | 0.1 | 30 | 0.094 | 10 |
| ZMM43 | 40 | 46 | 2.5 | 90 | 600 | 0.5 | 0.1 | 33 | 0.095 | 9.2 |
| ZMM47 | 44 | 50 | 2.5 | 110 | 700 | 0.5 | 0.1 | 36 | 0.095 | 8.5 |
| ZMM51 | 48 | 54 | 2.5 | 125 | 700 | 0.5 | 0.1 | 39 | 0.096 | 7.8 |
| ZMM56 | 52 | 60 | 2.5 | 135 | 1000 | 0.5 | 0.1 | 43 | 0.096 | 7 |

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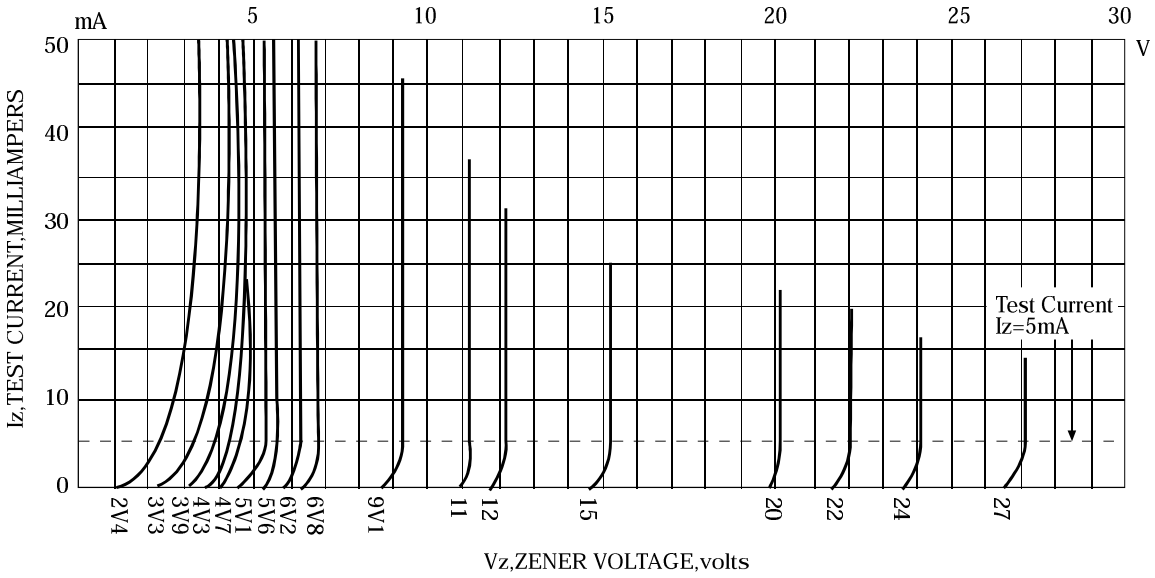
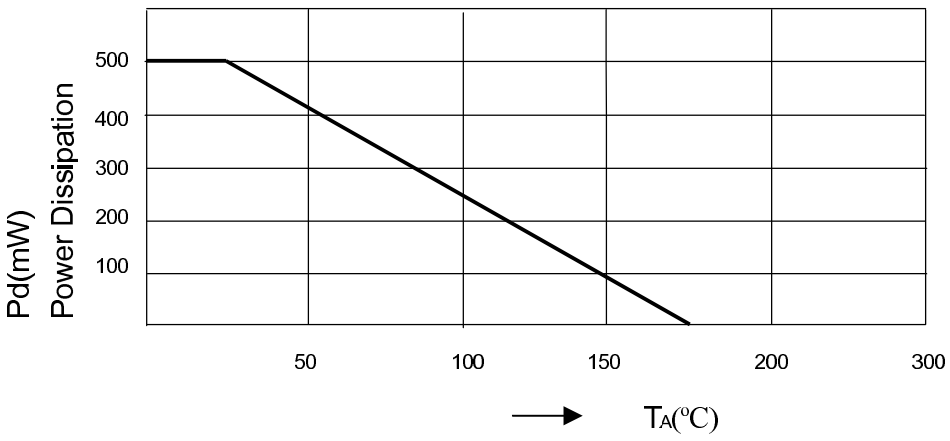
## ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| ZMM62 | 58 | 66 | 2.5 | 150 | 1000 | 0.5 | 0.1 | 47 | 0.096 | 6.4 |
| ZMM68 | 64 | 72 | 2.5 | 200 | 1000 | 0.5 | 0.1 | 51 | 0.096 | 5.9 |
| ZMM75 | 70 | 80 | 2.5 | 250 | 1500 | 0.5 | 0.1 | 56 | 0.096 | 5.3 |
| ZMM82 | 77 | 87 | 2.5 | 300 | 2000 | 0.5 | 0.1 | 62 | 0.096 | 4.8 |
| ZMM91 | 85 | 96 | 1 | 450 | 5000 | 0.1 | 0.1 | 68 | 0.096 | 4.4 |
| ZMM100 | 94 | 106 | 1 | 450 | 5000 | 0.1 | 0.1 | 75 | 0.096 | 4.0 |
| ZMM110 | 104 | 116 | 1.0 | 600 | 5000 | 0.1 | 0.1 | 82 | +0.096 | 3.6 |
| ZMM120 | 114 | 127 | 1.0 | 800 | 5000 | 0.1 | 0.1 | 91 | +0.096 | 3.3 |
| ZMM130 | 124 | 141 | 1.0 | 1000 | 5000 | 0.1 | 0.1 | 100 | +0.096 | 3.0 |
| ZMM150 | 138 | 156 | 1.0 | 1200 | 5000 | 0.1 | 0.1 | 110 | +0.096 | 2.6 |

## Typical Characteristics




## POWER ,TEMPERATURE DERATING CURVE



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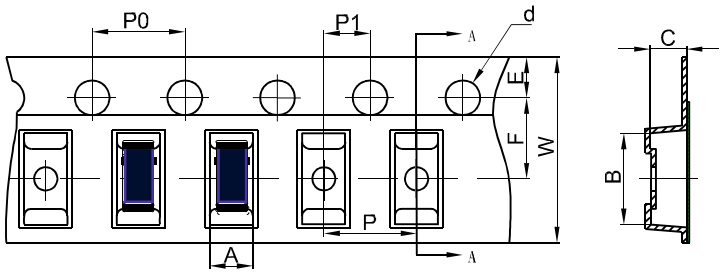
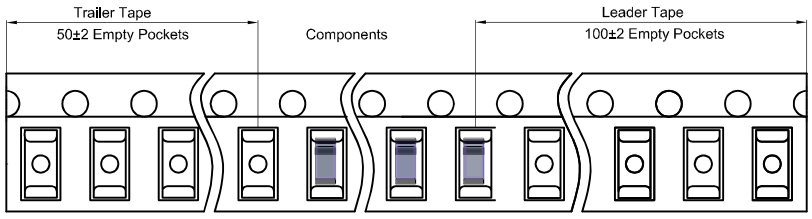
## LL34 Embossed Carrier Tape

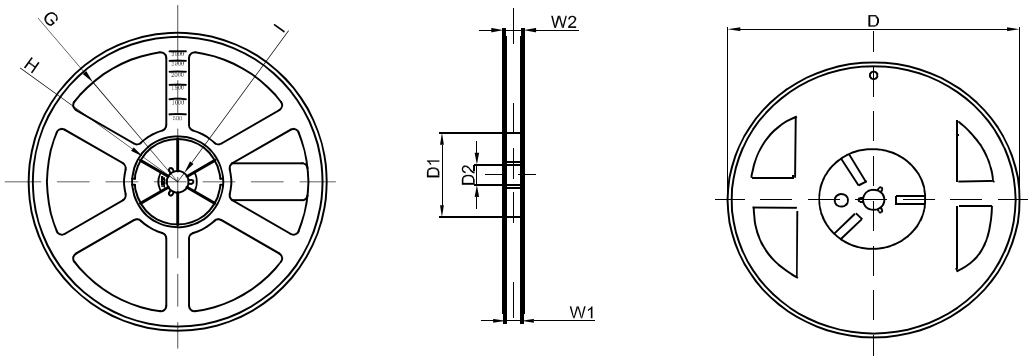



| | DIMENSIONS ARE IN MILLIMETER | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| TYPE | A | B | C | d | E | F | P0 | P | P1 | W |
| LL34 | 1.6 | 3.9 | 1.6 | Φ1.50 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.0 |
| TOLERANCE | ±0.05 | ±0.05 | ±0.05 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 | ±0.1 |

## LL34 Tape Leader and Trailer




## LL34 Reel




| | DIMENSIONS ARE IN MILLIMETER | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| REEL OPTION | D | D1 | D2 | G | H | I | W1 | W2 | | |
| 7" DIA | Φ178 | 54.40 | 13.00 | R78 | R25.60 | R6.50 | 9.50 | 12.30 | | |
| TOLERANCE | ±2 | ±1 | ±1 | ±1 | ±1 | ±1 | ±1 | ±1 | | |