# MTZJ Series

# ZENER DIODES

## $P_D$ : 500 mW

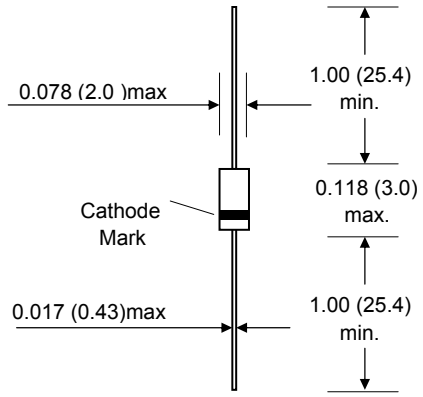
### FEATURES :

* High peak reverse power dissipation
* High reliability
* Low leakage current
* Pb / RoHS Free

### MECHANICAL DATA

**Case:** DO-34 Glass Case
**Weight:** approx. 0.093g

**DO - 34 Glass**



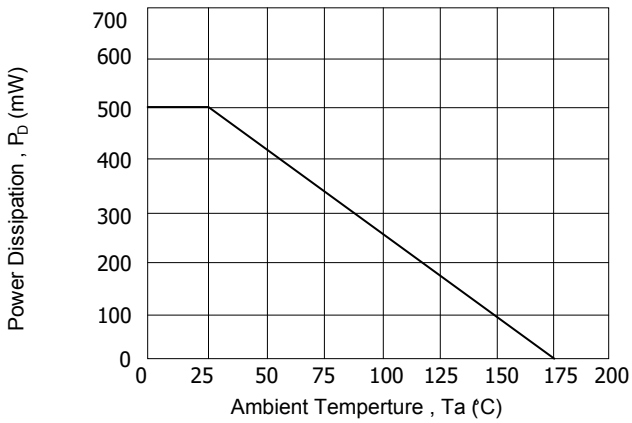

**Dimensions in inches and ( millimeters )**

### MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified

| Parameter | Symbol | Value | Unit |
|---|---|---|---|
| Power Dissipation | $P_D$ | 500 | mW |
| Junction Temperature | Tj | 175 | °C |
| Storage Temperature Range | $T_{stg}$ | - 65 to + 175 | °C |

**Fig 1. Derating Curve**



# ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

| Type | Zener Voltage $V_Z$ @ $I_{ZT}$ | | | | | | | | | | | | Test Current | Maximum Zener Impedance | | | Maximum Reverse Current | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Suffix A | | | Suffix B | | | Suffix C | | | Suffix D | | | | | | | | |
| | Min. | Nom. | Max. | Min. | Nom. | Max. | Min. | Nom. | Max. | Min. | Nom. | Max. | $I_{ZT}$ | $Z_{ZT}$ @ $I_{ZT}$ | $Z_{Zk}$ @ $I_{ZK}$ | $I_{ZK}$ | $I_R$ @ | $V_R$ |
| | (V) | (V) | (V) | (V) | (V) | (V) | (V) | (V) | (V) | (V) | (V) | (V) | (mA) | (Ω) | (Ω) | (mA) | (μA) | (V) |
| **MTZJ2.0** | 1.89 | 2.00 | 2.11 | 2.02 | 2.11 | 2.20 | - | - | - | - | - | - | 5 | 100 | 1000 | 0.5 | 120 | 0.5 |
| **MTZJ2.2** | 2.11 | 2.20 | 2.29 | 2.22 | 2.32 | 2.42 | - | - | - | - | - | - | 5 | 100 | 1000 | 0.5 | 120 | 0.7 |
| **MTZJ2.4** | 2.34 | 2.44 | 2.54 | 2.43 | 2.53 | 2.63 | - | - | - | - | - | - | 5 | 100 | 1000 | 0.5 | 120 | 1 |
| **MTZJ2.7** | 2.54 | 2.65 | 2.76 | 2.69 | 2.8 | 2.91 | | | | | | | 5 | 100 | 1000 | 0.5 | 100 | 1 |
| **MTZJ3.0** | 2.85 | 2.96 | 3.07 | 3.01 | 3.12 | 3.23 | - | - | - | - | - | - | 5 | 120 | 1000 | 0.5 | 50 | 1 |
| **MTZJ3.3** | 3.16 | 3.27 | 3.38 | 3.32 | 3.43 | 3.54 | - | - | - | - | - | - | 5 | 120 | 1000 | 0.5 | 20 | 1 |
| **MTZJ3.6** | 3.45 | 3.58 | 3.70 | 3.60 | 3.72 | 3.845 | - | - | - | - | - | - | 5 | 100 | 1000 | 1.0 | 10 | 1 |
| **MTZJ3.9** | 3.74 | 3.88 | 4.01 | 3.89 | 4.03 | 4.16 | - | - | - | - | - | - | 5 | 100 | 1000 | 1.0 | 5 | 1 |
| **MTZJ4.3** | 4.04 | 4.17 | 4.29 | 4.17 | 4.30 | 4.43 | - | - | - | - | - | - | 5 | 100 | 1000 | 1.0 | 5 | 1 |
| **MTZJ4.7** | 4.44 | 4.56 | 4.67 | 4.55 | 4.68 | 4.80 | 4.68 | 4.805 | 4.93 | - | - | - | 5 | 80 | 900 | 0.5 | 5 | 1 |
| **MTZJ5.1** | 4.81 | 4.94 | 5.06 | 4.94 | 5.07 | 5.20 | 5.08 | 5.23 | 5.37 | - | - | - | 5 | 70 | 1200 | 1.0 | 5 | 1.5 |
| **MTZJ5.6** | 5.11 | 5.42 | 5.55 | 5.45 | 5.59 | 5.72 | 5.61 | 5.76 | 5.90 | - | - | - | 5 | 40 | 900 | 1.0 | 5 | 2.5 |
| **MTZJ6.2** | 5.78 | 5.94 | 6.09 | 5.96 | 6.12 | 6.27 | 6.12 | 6.28 | 6.43 | - | - | - | 5 | 30 | 500 | 1.0 | 5 | 3 |
| **MTZJ6.8** | 6.33 | 6.46 | 6.62 | 6.49 | 6.66 | 6.82 | 6.66 | 6.84 | 7.01 | - | - | - | 5 | 20 | 150 | 0.5 | 2 | 3.5 |
| **MTZJ7.5** | 6.85 | 7.04 | 7.22 | 7.07 | 7.26 | 7.44 | 7.29 | 7.48 | 7.66 | - | - | - | 5 | 20 | 120 | 0.5 | 0.5 | 4 |
| **MTZJ8.2** | 7.53 | 7.73 | 7.92 | 7.79 | 8.00 | 8.20 | 8.03 | 8.24 | 8.44 | - | - | - | 5 | 20 | 120 | 0.5 | 0.5 | 5 |
| **MTZJ9.1** | 8.28 | 8.51 | 8.73 | 8.57 | 8.79 | 9.00 | 8.83 | 9.07 | 9.30 | - | - | - | 5 | 20 | 120 | 0.5 | 0.5 | 6 |
| **MTZJ10** | 9.13 | 9.36 | 9.59 | 9.41 | 9.66 | 9.90 | 9.70 | 9.95 | 10.19 | 9.94 | 10.20 | 10.45 | 5 | 20 | 120 | 0.5 | 0.2 | 7 |
| **MTZJ11** | 10.14 | 10.40 | 10.66 | 10.53 | 10.80 | 11.07 | 10.82 | 11.10 | 11.37 | - | - | - | 5 | 20 | 120 | 0.5 | 0.2 | 8 |
| **MTZJ12** | 11.11 | 11.40 | 11.68 | 11.40 | 11.70 | 11.99 | 11.70 | 12.00 | 12.30 | - | - | - | 5 | 25 | 110 | 0.5 | 0.2 | 9 |
| **MTZJ13** | 12.07 | 12.40 | 12.72 | 12.56 | 12.90 | 13.23 | 12.96 | 13.30 | 13.63 | - | - | - | 5 | 25 | 110 | 0.5 | 0.2 | 10 |
| **MTZJ14** | 12.75 | 13.20 | 13.43 | 13.24 | 13.60 | 13.95 | 13.65 | 14.00 | 14.40 | | | | 5 | 25 | 110 | 0.5 | 0.2 | 10.5 |
| **MTZJ15** | 13.45 | 13.80 | 14.14 | 13.92 | 14.30 | 14.67 | 14.33 | 14.70 | 15.06 | - | - | - | 5 | 25 | 110 | 0.5 | 0.2 | 11 |
| **MTZJ16** | 14.82 | 15.20 | 15.58 | 15.21 | 15.60 | 15.99 | 15.69 | 16.10 | 16.50 | - | - | - | 5 | 25 | 150 | 0.5 | 0.2 | 12 |
| **MTZJ18** | 16.19 | 16.60 | 17.02 | 16.87 | 17.30 | 17.73 | 17.39 | 17.80 | 18.21 | - | - | - | 5 | 30 | 150 | 0.5 | 0.2 | 13 |
| **MTZJ20** | 18.04 | 18.50 | 18.96 | 18.62 | 19.10 | 19.58 | 19.21 | 19.70 | 20.19 | 19.70 | 20.20 | 20.71 | 5 | 30 | 200 | 0.5 | 0.2 | 15 |
| **MTZJ22** | 20.18 | 20.70 | 21.22 | 20.67 | 21.20 | 21.73 | 21.06 | 21.60 | 22.14 | 21.55 | 22.10 | 22.65 | 5 | 30 | 200 | 0.5 | 0.2 | 17 |
| **MTZJ24** | 22.04 | 22.60 | 23.17 | 22.62 | 23.20 | 23.78 | 23.11 | 23.70 | 24.29 | 23.60 | 24.20 | 24.81 | 5 | 35 | 200 | 0.5 | 0.2 | 19 |
| **MTZJ27** | 24.28 | 24.90 | 25.52 | 24.96 | 25.60 | 26.24 | 26.33 | 27.00 | 27.68 | 26.54 | 27.00 | 27.46 | 5 | 45 | 250 | 0.5 | 0.2 | 21 |
| **MTZJ30** | 27.01 | 27.70 | 28.39 | 27.69 | 28.40 | 29.11 | 28.37 | 29.10 | 29.83 | 29.06 | 29.80 | 30.55 | 5 | 55 | 250 | 0.5 | 0.2 | 23 |
| **MTZJ33** | 29.64 | 30.40 | 31.16 | 30.32 | 31.10 | 31.88 | 30.91 | 31.70 | 32.49 | 31.49 | 32.30 | 33.11 | 5 | 65 | 250 | 0.5 | 0.2 | 25 |
| **MTZJ36** | 32.18 | 33.00 | 33.83 | 32.76 | 33.60 | 34.44 | 33.44 | 34.30 | 35.16 | 34.03 | 34.90 | 35.77 | 5 | 75 | 250 | 0.5 | 0.2 | 27 |
| **MTZJ39** | 34.71 | 35.60 | 36.49 | 35.47 | 36.30 | 37.13 | 35.98 | 36.90 | 37.82 | 36.66 | 37.60 | 38.54 | 5 | 85 | 250 | 0.5 | 0.2 | 30 |

**Note :** 1. The Zener voltage is measured 40ms after power is supplied.

## RATING AND CHARACTERISTIC CURVES ( MTZJ Series )

Fig. 2 $V_Z$ - $I_Z$ Characteristics