

# Zener diode

## MTZ J Series

### ●Applications

Constant voltage control

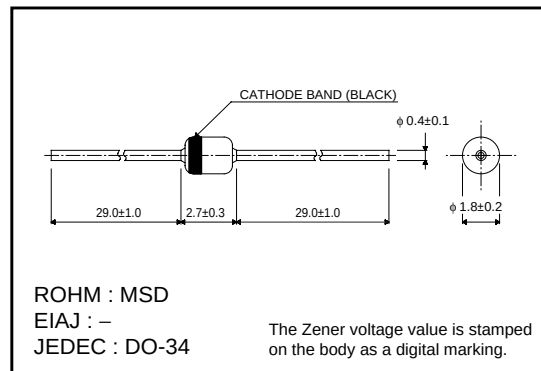
### ●Features

- 1) Glass sealed envelope. (MSD)
- 2) High reliability.

### ●Construction

Silicon epitaxial planer

### ●External dimensions (Unit : mm)



### ●Absolute maximum ratings (Ta=25°C)

| Parameter            | Symbol           | Limits      | Unit |
|----------------------|------------------|-------------|------|
| Power dissipation    | P                | 500         | mW   |
| Junction temperature | T <sub>j</sub>   | 175         | °C   |
| Storage temperature  | T <sub>stg</sub> | -65 to +175 | °C   |

## Diodes

## ●Electrical characteristics (Ta=25°C)

| Type       | Zener voltage      |        |                     | Operating resistance |                     | Rising operating resistance |                     | Reverse current     |                    |
|------------|--------------------|--------|---------------------|----------------------|---------------------|-----------------------------|---------------------|---------------------|--------------------|
|            | V <sub>Z</sub> (V) |        |                     | Z <sub>Z</sub> (Ω)   |                     | Z <sub>ZK</sub> (Ω)         |                     | I <sub>R</sub> (μA) |                    |
|            | Min.               | Max.   | I <sub>Z</sub> (mA) | Max.                 | I <sub>Z</sub> (mA) | Max.                        | I <sub>Z</sub> (mA) | Max.                | V <sub>R</sub> (V) |
| MTZ J 3.6B | 3.600              | 3.845  | 5                   | 100                  | 5                   | 1000                        | 1                   | 10                  | 1.0                |
| MTZ J 3.9B | 3.890              | 4.160  | 5                   | 100                  | 5                   | 1000                        | 1                   | 5                   | 1.0                |
| MTZ J 4.3B | 4.170              | 4.430  | 5                   | 100                  | 5                   | 1000                        | 1                   | 5                   | 1.0                |
| MTZ J 4.7B | 4.550              | 4.800  | 5                   | 80                   | 5                   | 900                         | 0.5                 | 5                   | 1.0                |
| MTZ J 5.1B | 4.940              | 5.200  | 5                   | 70                   | 5                   | 1200                        | 1                   | 5                   | 1.5                |
| MTZ J 5.6B | 5.450              | 5.730  | 5                   | 40                   | 5                   | 900                         | 1                   | 5                   | 2.5                |
| MTZ J 6.2B | 5.960              | 6.270  | 5                   | 30                   | 5                   | 500                         | 1                   | 5                   | 3.0                |
| MTZ J 6.8B | 6.490              | 6.830  | 5                   | 20                   | 5                   | 150                         | 0.5                 | 2                   | 3.5                |
| MTZ J 7.5B | 7.070              | 7.450  | 5                   | 20                   | 5                   | 120                         | 0.5                 | 0.5                 | 4.0                |
| MTZ J 8.2B | 7.780              | 8.190  | 5                   | 20                   | 5                   | 120                         | 0.5                 | 0.5                 | 5.0                |
| MTZ J 9.1B | 8.570              | 9.010  | 5                   | 20                   | 5                   | 120                         | 0.5                 | 0.5                 | 6.0                |
| MTZ J 10B  | 9.410              | 9.900  | 5                   | 20                   | 5                   | 120                         | 0.5                 | 0.2                 | 7.0                |
| MTZ J 11B  | 10.500             | 11.050 | 5                   | 20                   | 5                   | 120                         | 0.5                 | 0.2                 | 8.0                |
| MTZ J 12B  | 11.440             | 12.030 | 5                   | 25                   | 5                   | 110                         | 0.5                 | 0.2                 | 9.0                |
| MTZ J 13B  | 12.550             | 13.210 | 5                   | 25                   | 5                   | 110                         | 0.5                 | 0.2                 | 10                 |
| MTZ J 15B  | 13.890             | 14.620 | 5                   | 25                   | 5                   | 110                         | 0.5                 | 0.2                 | 11                 |
| MTZ J 16B  | 15.250             | 16.040 | 5                   | 25                   | 5                   | 150                         | 0.5                 | 0.2                 | 12                 |
| MTZ J 18B  | 16.820             | 17.700 | 5                   | 30                   | 5                   | 150                         | 0.5                 | 0.2                 | 13                 |
| MTZ J 20B  | 18.630             | 19.590 | 5                   | 30                   | 5                   | 200                         | 0.5                 | 0.2                 | 15                 |
| MTZ J 22B  | 20.640             | 21.710 | 5                   | 30                   | 5                   | 200                         | 0.5                 | 0.2                 | 17                 |
| MTZ J 24B  | 22.610             | 23.770 | 5                   | 35                   | 5                   | 200                         | 0.5                 | 0.2                 | 19                 |
| MTZ J 27B  | 24.970             | 26.260 | 5                   | 45                   | 5                   | 250                         | 0.5                 | 0.2                 | 21                 |
| MTZ J 30B  | 27.700             | 29.130 | 5                   | 55                   | 5                   | 250                         | 0.5                 | 0.2                 | 23                 |
| MTZ J 33B  | 30.320             | 31.880 | 5                   | 65                   | 5                   | 250                         | 0.5                 | 0.2                 | 25                 |
| MTZ J 36B  | 32.790             | 34.490 | 5                   | 75                   | 5                   | 250                         | 0.5                 | 0.2                 | 27                 |
| MTZ J 39B  | 35.360             | 37.190 | 5                   | 85                   | 5                   | 250                         | 0.5                 | 0.2                 | 30                 |

Notes) 1. The Zener voltage is measured 40ms after power is supplied.

# Diodes

## ●Electrical characteristics curves (Ta=25°C)

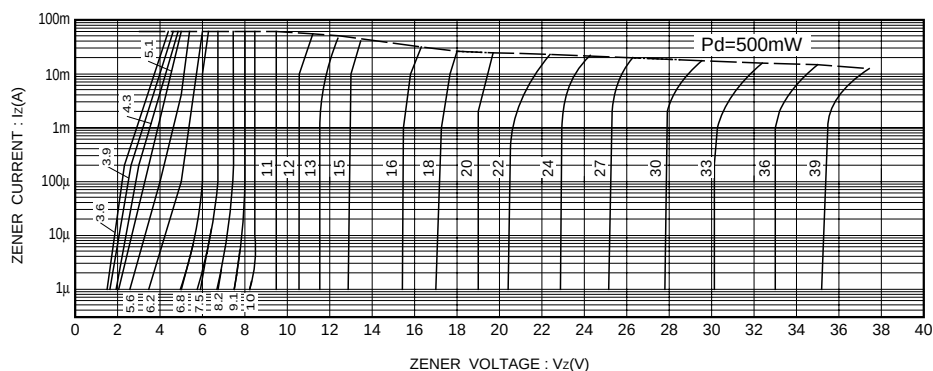


Fig.1 Zener characteristics

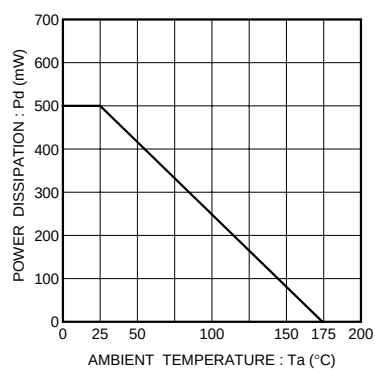


Fig. 2 Derating curve

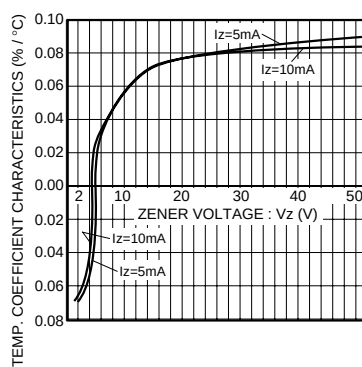
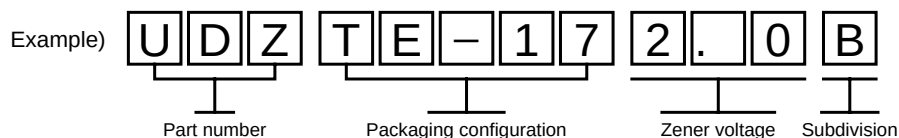


Fig.3 Zener voltage-temp.coefficient characteristics

## ●Makeup of the part number

- Please follow the part number designation when the order is placed.
- Fill in from the left, leaving any extra boxes empty on the right.
- Please refer packing specification about packing form.

## ●Zener diodes



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