

# Zener diode

## MTZJ33B

**●Applications**

Constant voltage control

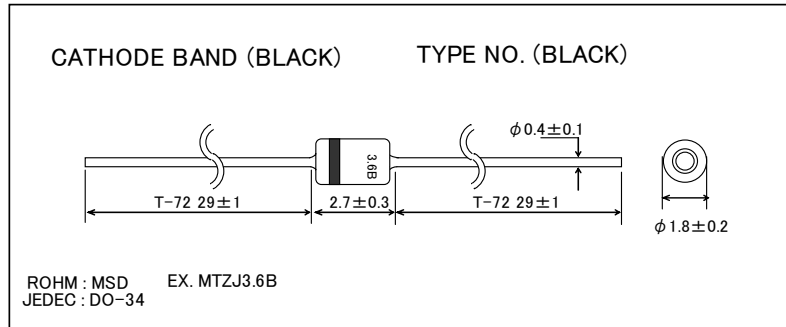
**●Features**

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

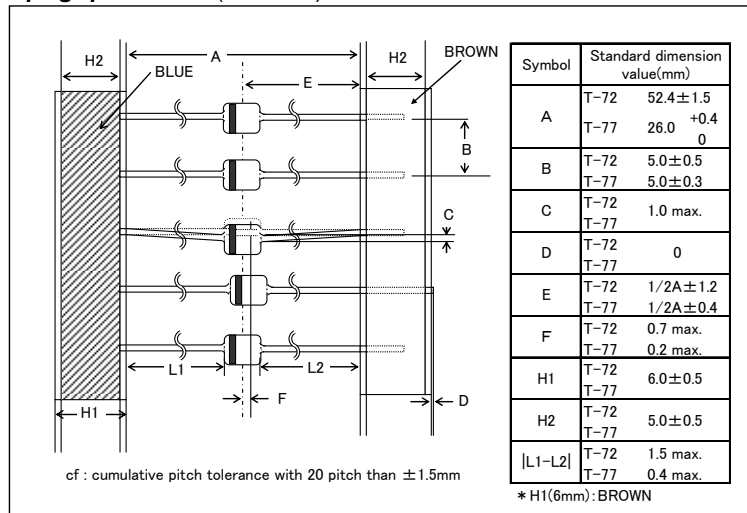
**●Construction**

Silicon planer

**●External dimensions (Unit : mm)**



**●Taping specification (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

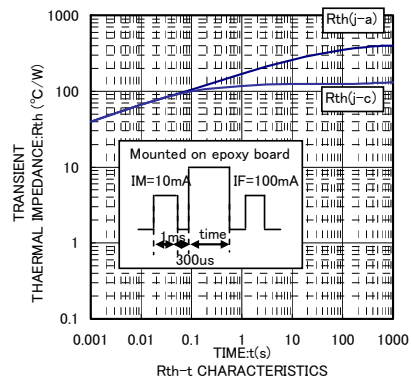
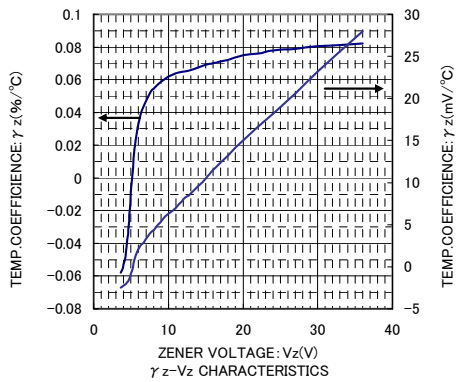
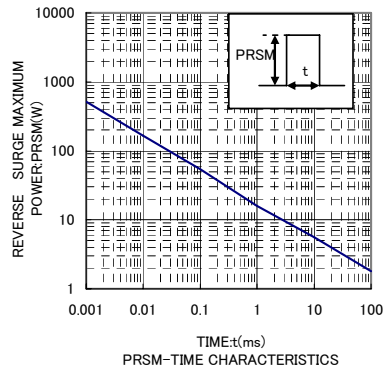
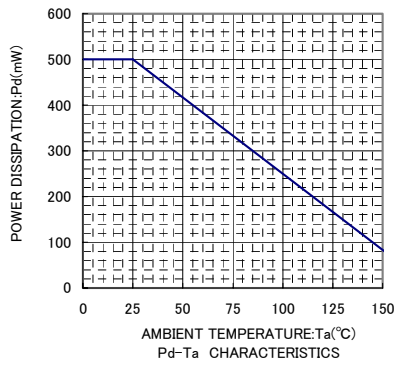
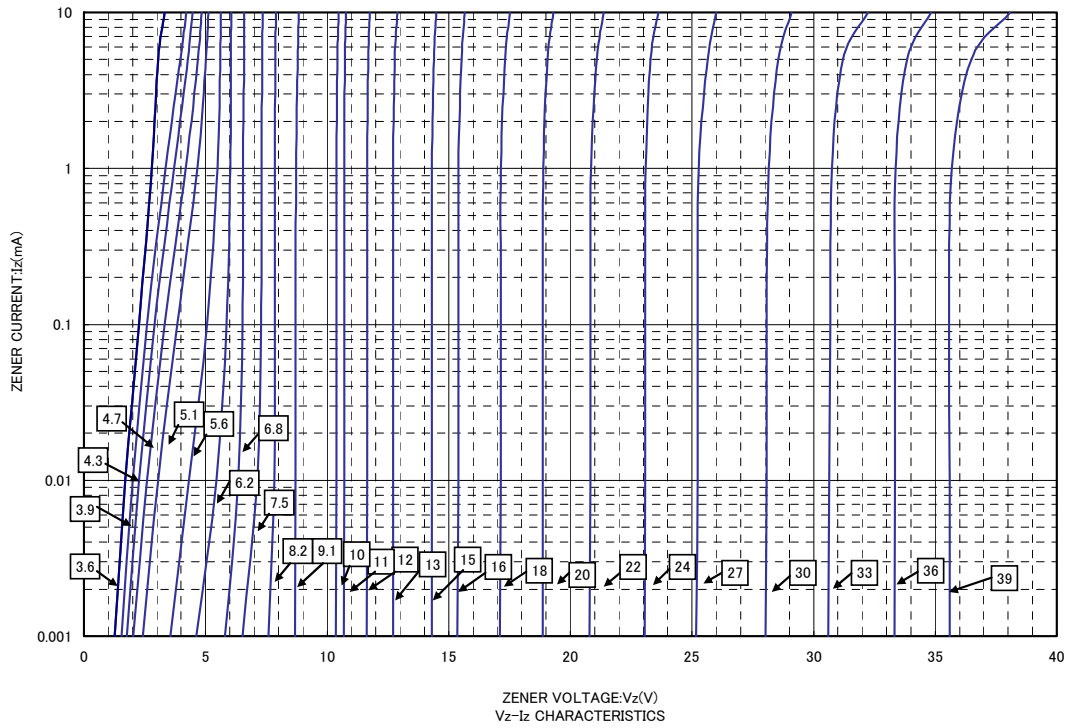
## ●Electrical characteristics curves (Ta=25°C)

| TYP.      | Symbol                |        |        |                              |        |                                     |        |                          |       |
|-----------|-----------------------|--------|--------|------------------------------|--------|-------------------------------------|--------|--------------------------|-------|
|           | Zener voltage : Vz(V) |        |        | Operating resistance : Zz(Ω) |        | Rising operating resistance : Zz(Ω) |        | Reverse current : IR(μA) |       |
|           | MIN.                  | MAX.   | Iz(mA) | MAX.                         | Iz(mA) | MAX.                                | Iz(mA) | MAX.                     | VR(V) |
| MTZJ 3.6B | 3.600                 | 3.845  | 5.0    | 100                          | 5.0    | 1000                                | 1.0    | 10.0                     | 1.0   |
| MTZJ 3.9B | 3.890                 | 4.160  | 5.0    | 100                          | 5.0    | 1000                                | 1.0    | 5.0                      | 1.0   |
| MTZJ 4.3B | 4.170                 | 4.430  | 5.0    | 100                          | 5.0    | 1000                                | 1.0    | 5.0                      | 1.0   |
| MTZJ 4.7B | 4.550                 | 4.800  | 5.0    | 80                           | 5.0    | 900                                 | 0.5    | 5.0                      | 1.0   |
| MTZJ 5.1B | 4.940                 | 5.200  | 5.0    | 70                           | 5.0    | 1200                                | 0.5    | 5.0                      | 1.5   |
| MTZJ 5.6B | 5.450                 | 5.730  | 5.0    | 40                           | 5.0    | 900                                 | 0.5    | 5.0                      | 2.5   |
| MTZJ 6.2B | 5.960                 | 6.270  | 5.0    | 30                           | 5.0    | 500                                 | 0.5    | 5.0                      | 3.0   |
| MTZJ 6.8B | 6.490                 | 6.830  | 5.0    | 20                           | 5.0    | 150                                 | 0.5    | 2.0                      | 3.5   |
| MTZJ 7.5B | 7.070                 | 7.450  | 5.0    | 20                           | 5.0    | 120                                 | 0.5    | 0.5                      | 4.0   |
| MTZJ 8.2B | 7.780                 | 8.190  | 5.0    | 20                           | 5.0    | 120                                 | 0.5    | 0.5                      | 5.0   |
| MTZJ 9.1B | 8.570                 | 9.010  | 5.0    | 20                           | 5.0    | 120                                 | 0.5    | 0.5                      | 6.0   |
| MTZJ 10B  | 9.410                 | 9.900  | 5.0    | 20                           | 5.0    | 120                                 | 0.5    | 0.2                      | 7.0   |
| MTZJ 11B  | 10.500                | 11.050 | 5.0    | 20                           | 5.0    | 120                                 | 0.5    | 0.2                      | 8.0   |
| MTZJ 12B  | 11.440                | 12.030 | 5.0    | 25                           | 5.0    | 110                                 | 0.5    | 0.2                      | 9.0   |
| MTZJ 13B  | 12.550                | 13.210 | 5.0    | 25                           | 5.0    | 110                                 | 0.5    | 0.2                      | 10.0  |
| MTZJ 15B  | 13.890                | 14.620 | 5.0    | 25                           | 5.0    | 110                                 | 0.5    | 0.2                      | 11.0  |
| MTZJ 16B  | 15.250                | 16.040 | 5.0    | 25                           | 5.0    | 150                                 | 0.5    | 0.2                      | 12.0  |
| MTZJ 18B  | 16.820                | 17.700 | 5.0    | 30                           | 5.0    | 150                                 | 0.5    | 0.2                      | 13.0  |
| MTZJ 20B  | 18.630                | 19.590 | 5.0    | 30                           | 5.0    | 200                                 | 0.5    | 0.2                      | 15.0  |
| MTZJ 22B  | 20.640                | 21.710 | 5.0    | 30                           | 5.0    | 200                                 | 0.5    | 0.2                      | 17.0  |
| MTZJ 24B  | 22.610                | 23.770 | 5.0    | 35                           | 5.0    | 200                                 | 0.5    | 0.2                      | 19.0  |
| MTZJ 27B  | 24.970                | 26.260 | 5.0    | 45                           | 5.0    | 250                                 | 0.5    | 0.2                      | 21.0  |
| MTZJ 30B  | 27.700                | 29.130 | 5.0    | 55                           | 5.0    | 250                                 | 0.5    | 0.2                      | 23.0  |
| MTZJ 33B  | 30.320                | 31.880 | 5.0    | 65                           | 5.0    | 250                                 | 0.5    | 0.2                      | 25.0  |
| MTZJ 36B  | 32.790                | 34.490 | 5.0    | 75                           | 5.0    | 250                                 | 0.5    | 0.2                      | 27.0  |
| MTZJ 39B  | 35.360                | 37.190 | 5.0    | 85                           | 5.0    | 250                                 | 0.5    | 0.2                      | 30.0  |

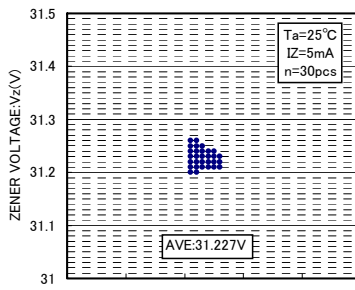
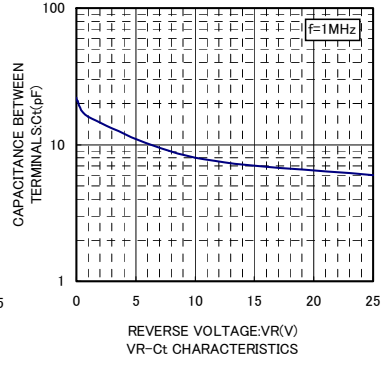
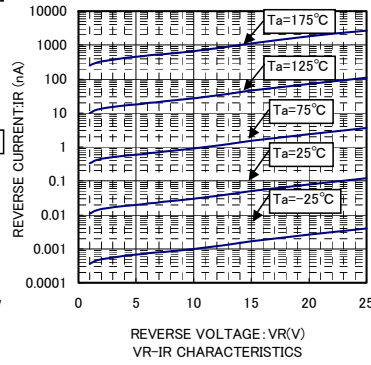
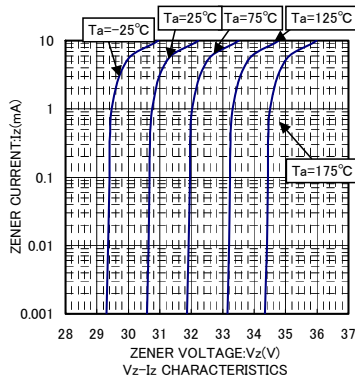
## ●Type NO.

| TYPE      | TYPE NO. | TYPE     | TYPE NO. |
|-----------|----------|----------|----------|
| MTZJ 3.6B | 3.6B     | MTZJ 12B | 12B      |
| MTZJ 3.9B | 3.9B     | MTZJ 13B | 13B      |
| MTZJ 4.3B | 4.3B     | MTZJ 15B | 15B      |
| MTZJ 4.7B | 4.7B     | MTZJ 16B | 16B      |
| MTZJ 5.1B | 5.1B     | MTZJ 18B | 18B      |
| MTZJ 5.6B | 5.6B     | MTZJ 20B | 20B      |
| MTZJ 6.2B | 6.2B     | MTZJ 22B | 22B      |
| MTZJ 6.8B | 6.8B     | MTZJ 24B | 24B      |
| MTZJ 7.5B | 7.5B     | MTZJ 27B | 27B      |
| MTZJ 8.2B | 8.2B     | MTZJ 30B | 30B      |
| MTZJ 9.1B | 9.1B     | MTZJ 33B | 33B      |
| MTZJ 10B  | 10B      | MTZJ 36B | 36B      |
| MTZJ 11B  | 11B      | MTZJ 39B | 39B      |

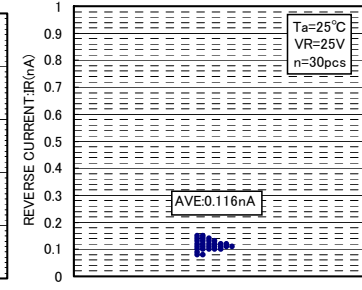
Diodes



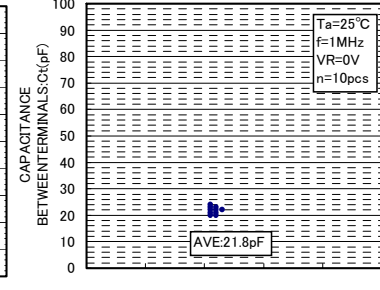
Diodes



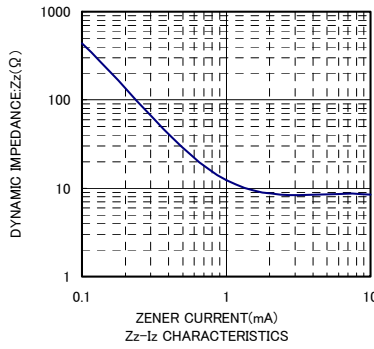
$V_z$  DISRESION MAP



$I_R$  DISRESION MAP



$C_t$  DISRESION MAP



$Z_z$ - $I_z$  CHARACTERISTICS

### Notes

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