

## Zener diode

## PTZ15B

## ●Applications

Voltage regulation

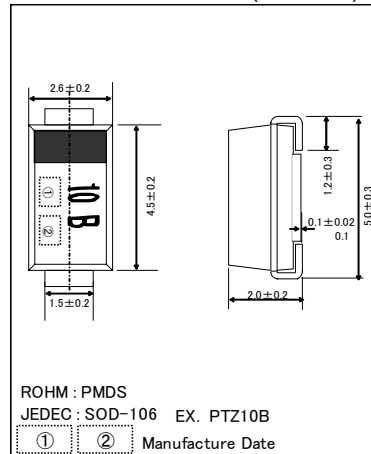
## ●Features

- 1) Small power mold type. (PMDS)
- 2) High ESD tolerance

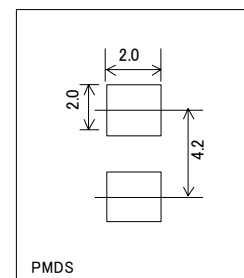
## ●Construction

Silicon epitaxial planar

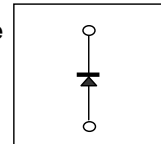
## ●External dimensions (Unit : mm)



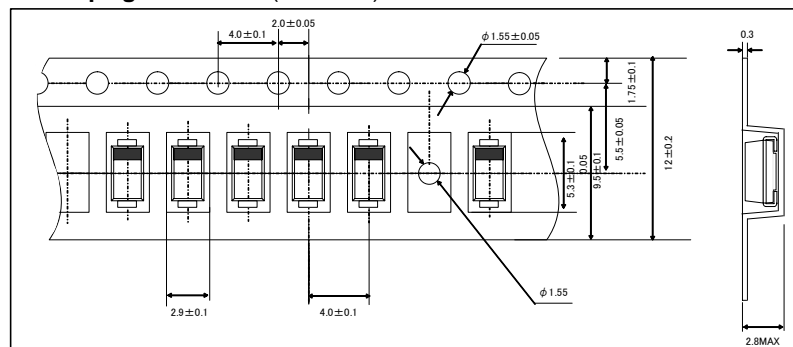
## ●Land size figure (Unit : mm)



## ●Structure



## ●Taping dimensions (Unit : mm)



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

| Parameter            | Symbol           | Limits      | Unit |
|----------------------|------------------|-------------|------|
| Power dissipation    | P                | 1000        | mW   |
| Junction temperature | T <sub>j</sub>   | 150         | °C   |
| Storage temperature  | T <sub>stg</sub> | -55 to +150 | °C   |

## Diodes

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

| TYP.     | Symbol                |        |        |                              |      |                          |      |                                      |      |                                  |      | MIN.   | Test Condition |
|----------|-----------------------|--------|--------|------------------------------|------|--------------------------|------|--------------------------------------|------|----------------------------------|------|--|----------------|
|          | Zener voltage : Vz(V) |        |        | Operating resistance : Zz(Ω) |      | Reverse current : IR(μA) |      | Temperature coefficient : *γz(mV/°C) |      | ESD Break down voltage : ESD(kV) |      |  |                |
|          | MIN.                  | TYP.   | MAX.   | Iz(mA)                       | Max. | Iz(mA)                   | MAX. | VR(V)                                | TYP. | Iz(mA)                           | MIN. |  |                |
| PTZ 3.6B | 3.600                 | 3.813  | 4.000  | 40                           | 15   | 40                       | 60   | 1.0                                  | -2.8 | 40                               | 30kV | C=150pF<br>R=330Ω<br>forward<br>and<br>reverse :<br>10 times |                |
| PTZ 3.9B | 3.900                 | 4.136  | 4.400  | 40                           | 15   | 40                       | 40   | 1.0                                  | -2.4 | 40                               |      |  |                |
| PTZ 4.3B | 4.300                 | 4.572  | 4.800  | 40                           | 15   | 40                       | 20   | 1.0                                  | -2.1 | 40                               |      |  |                |
| PTZ 4.7B | 4.700                 | 4.924  | 5.200  | 40                           | 10   | 40                       | 20   | 1.0                                  | -1.7 | 40                               |      |  |                |
| PTZ 5.1B | 5.100                 | 5.368  | 5.700  | 40                           | 8    | 40                       | 20   | 1.5                                  | -0.6 | 40                               |      |  |                |
| PTZ 5.6B | 5.600                 | 5.856  | 6.300  | 40                           | 8    | 40                       | 20   | 2.5                                  | 1.4  | 40                               |      |  |                |
| PTZ 6.2B | 6.200                 | 6.509  | 7.000  | 40                           | 6    | 40                       | 20   | 3.0                                  | 2.5  | 40                               |      |  |                |
| PTZ 6.8B | 6.800                 | 7.280  | 7.700  | 40                           | 6    | 40                       | 20   | 3.5                                  | 3.2  | 40                               |      |  |                |
| PTZ 7.5B | 7.500                 | 7.889  | 8.400  | 40                           | 4    | 40                       | 20   | 4.0                                  | 4.2  | 40                               |      |  |                |
| PTZ 8.2B | 8.200                 | 8.655  | 9.300  | 40                           | 4    | 40                       | 20   | 5.0                                  | 5.0  | 40                               |      |  |                |
| PTZ 9.1B | 9.100                 | 9.747  | 10.200 | 40                           | 6    | 40                       | 20   | 6.0                                  | 5.9  | 40                               |      |  |                |
| PTZ 10B  | 10.000                | 10.310 | 11.200 | 40                           | 6    | 40                       | 10   | 7.0                                  | 6.9  | 40                               |      |  |                |
| PTZ 11B  | 11.000                | 11.510 | 12.300 | 20                           | 8    | 20                       | 10   | 8.0                                  | 7.9  | 20                               |      |  |                |
| PTZ 12B  | 12.000                | 12.500 | 13.500 | 20                           | 8    | 20                       | 10   | 9.0                                  | 8.7  | 20                               |      |  |                |
| PTZ 13B  | 13.300                | 13.820 | 15.000 | 20                           | 10   | 20                       | 10   | 10.0                                 | 10.1 | 20                               |      |  |                |
| PTZ 15B  | 14.700                | 15.350 | 16.500 | 20                           | 10   | 20                       | 10   | 11.0                                 | 11.8 | 20                               |      |  |                |
| PTZ 16B  | 16.200                | 16.860 | 18.300 | 20                           | 12   | 20                       | 10   | 12.0                                 | 13.3 | 20                               |      |  |                |
| PTZ 18B  | 18.000                | 19.000 | 20.300 | 20                           | 12   | 20                       | 10   | 13.0                                 | 15.0 | 20                               |      |  |                |
| PTZ 20B  | 20.000                | 20.820 | 22.400 | 20                           | 14   | 20                       | 10   | 15.0                                 | 17.4 | 20                               |      |  |                |
| PTZ 22B  | 22.000                | 23.850 | 24.500 | 10                           | 14   | 10                       | 10   | 17.0                                 | 19.4 | 10                               |      |  |                |
| PTZ 24B  | 24.000                | 25.310 | 27.600 | 10                           | 16   | 10                       | 10   | 19.0                                 | 21.6 | 10                               |      |  |                |
| PTZ 27B  | 27.000                | 28.700 | 30.800 | 10                           | 16   | 10                       | 10   | 21.0                                 | 24.6 | 10                               |      |  |                |
| PTZ 30B  | 30.000                | 31.570 | 34.000 | 10                           | 18   | 10                       | 10   | 23.0                                 | 27.5 | 10                               |      |  |                |
| PTZ 33B  | 33.000                | 34.950 | 37.000 | 10                           | 18   | 10                       | 10   | 25.0                                 | 30.8 | 10                               |      |  |                |
| PTZ 36B  | 36.000                | 39.240 | 40.000 | 10                           | 20   | 10                       | 10   | 27.0                                 | 37.0 | 10                               |      |  |                |

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

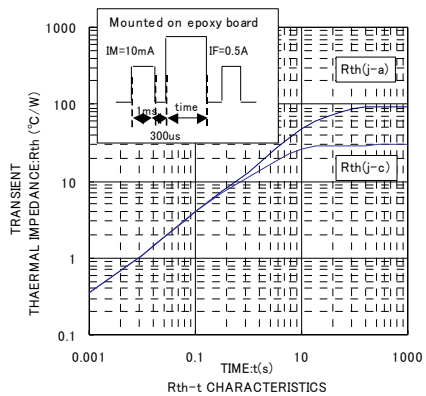
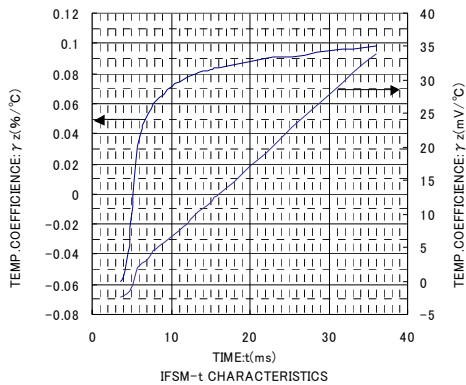
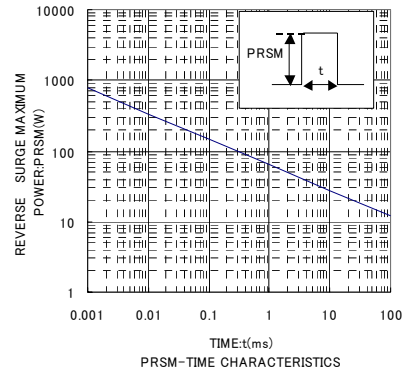
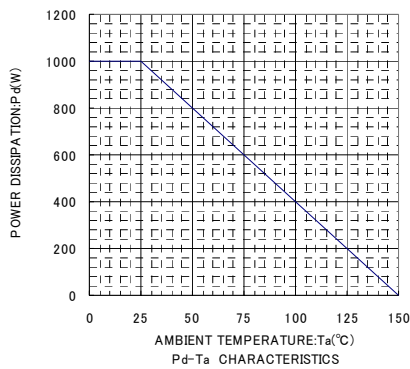
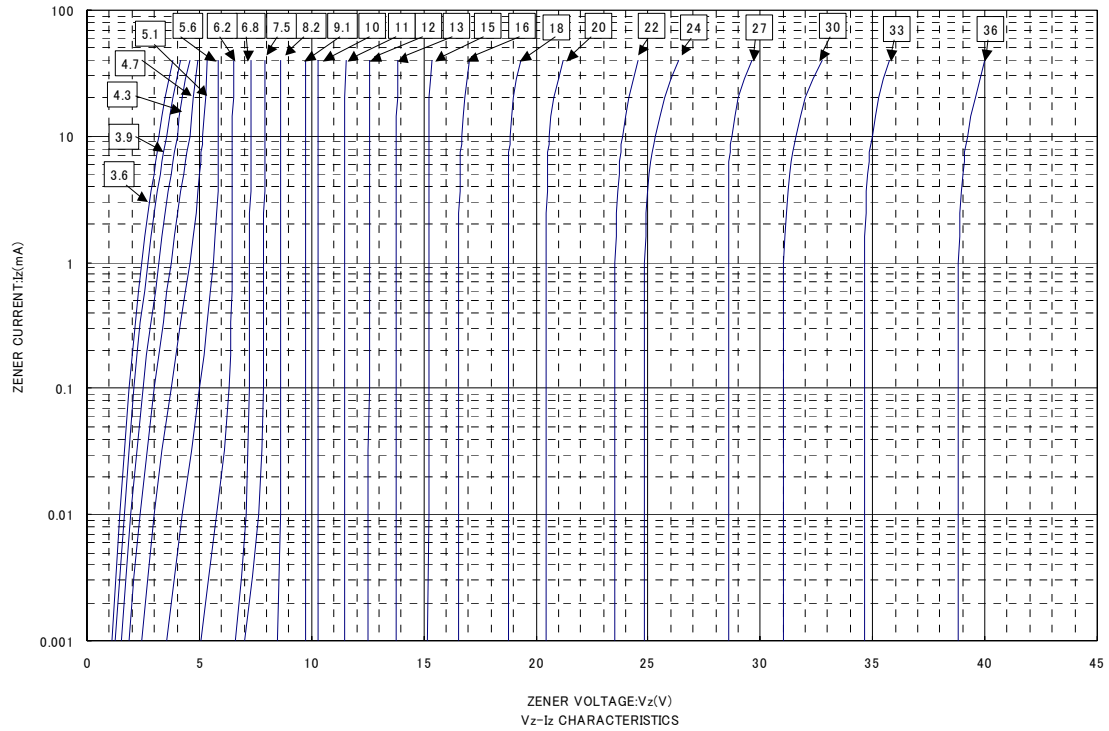
2.The operating resistances(Zz, Zzk) are measured by superimposing a minute alternating current on the regulated current(Iz).

## ●Marking (TYPE NO.)

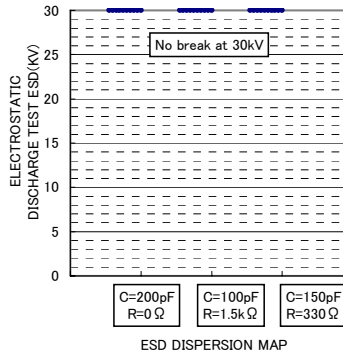
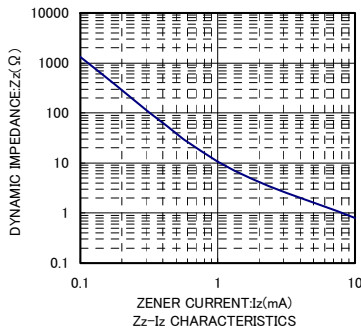
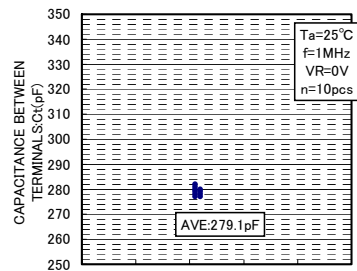
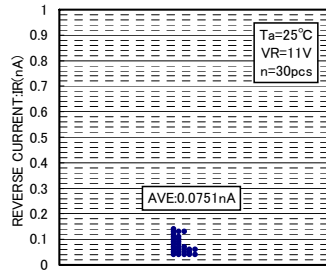
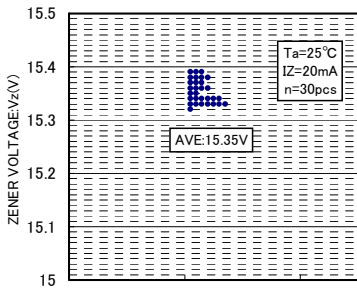
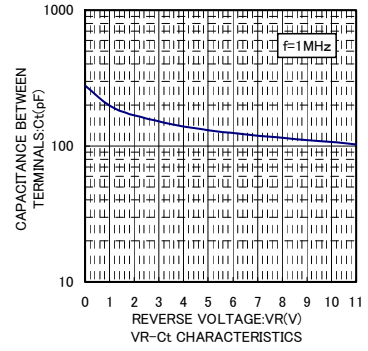
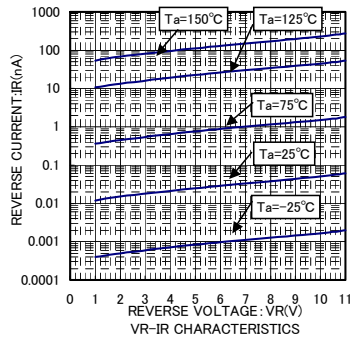
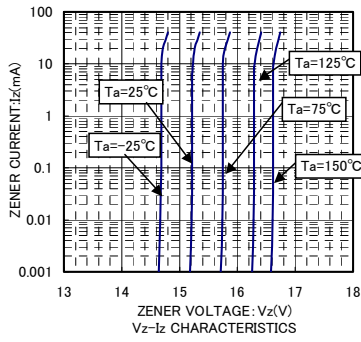
| TYPE     | TYPE NO. | TYPE     | TYPE NO. | TYPE    | TYPE NO. |
|----------|----------|----------|----------|---------|----------|
| PTZ 3.6B | 3.6B     | PTZ 8.2B | 8.2B     | PTZ 20B | 20B      |
| PTZ 3.9B | 3.9B     | PTZ 9.1B | 9.1B     | PTZ 22B | 22B      |
| PTZ 4.3B | 4.3B     | PTZ 10B 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

Diodes

●Electrical characteristic curves (Ta=25°C)



Diodes



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