

# Zener diode

## KDZ3.9B

●Applications

Voltage regulation

●Features

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

●Construction

Silicon epitaxial planar

●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               |        |        |        |                         |       |
|----------|----------------------|--------|--------|--------|-------------------------|-------|
|          | Zener voltage: Vz(V) |        |        |        | Reverse current: IR(μA) |       |
|          | MIN.                 | TYP.   | MAX.   | Iz(mA) | MAX.                    | VR(V) |
| KDZ 3.6B | 3.600                | 3.813  | 4.000  | 40     | 60                      | 1.0   |
| KDZ 3.9B | 3.900                | 4.136  | 4.400  | 40     | 40                      | 1.0   |
| KDZ 4.3B | 4.300                | 4.572  | 4.800  | 40     | 20                      | 1.0   |
| KDZ 4.7B | 4.700                | 4.924  | 5.200  | 40     | 20                      | 1.0   |
| KDZ 5.1B | 5.100                | 5.368  | 5.700  | 40     | 20                      | 1.5   |
| KDZ 5.6B | 5.600                | 5.856  | 6.300  | 40     | 20                      | 2.5   |
| KDZ 6.2B | 6.200                | 6.509  | 7.000  | 40     | 20                      | 3.0   |
| KDZ 6.8B | 6.800                | 7.280  | 7.700  | 40     | 20                      | 3.5   |
| KDZ 7.5B | 7.500                | 7.889  | 8.400  | 40     | 20                      | 4.0   |
| KDZ 8.2B | 8.200                | 8.655  | 9.300  | 40     | 20                      | 5.0   |
| KDZ 9.1B | 9.100                | 9.747  | 10.200 | 40     | 20                      | 6.0   |
| KDZ 10B  | 10.000               | 10.310 | 11.200 | 40     | 10                      | 7.0   |
| KDZ 11B  | 11.000               | 11.510 | 12.300 | 20     | 10                      | 8.0   |
| KDZ 12B  | 12.000               | 12.500 | 13.500 | 20     | 10                      | 9.0   |
| KDZ 13B  | 13.300               | 13.820 | 15.000 | 20     | 10                      | 10.0  |
| KDZ 15B  | 14.700               | 15.350 | 16.500 | 20     | 10                      | 11.0  |
| KDZ 16B  | 16.200               | 16.860 | 18.300 | 20     | 10                      | 12.0  |
| KDZ 18B  | 18.000               | 19.000 | 20.300 | 20     | 10                      | 13.0  |
| KDZ 20B  | 20.000               | 20.820 | 22.400 | 20     | 10                      | 15.0  |
| KDZ 22B  | 22.000               | 23.850 | 24.500 | 10     | 10                      | 17.0  |
| KDZ 24B  | 24.000               | 25.310 | 27.600 | 10     | 10                      | 19.0  |
| KDZ 27B  | 27.000               | 28.700 | 30.800 | 10     | 10                      | 21.0  |
| KDZ 30B  | 30.000               | 31.570 | 34.000 | 10     | 10                      | 23.0  |
| KDZ 33B  | 33.000               | 34.950 | 37.000 | 10     | 10                      | 25.0  |
| KDZ 36B  | 36.000               | 39.240 | 40.000 | 10     | 10                      | 27.0  |

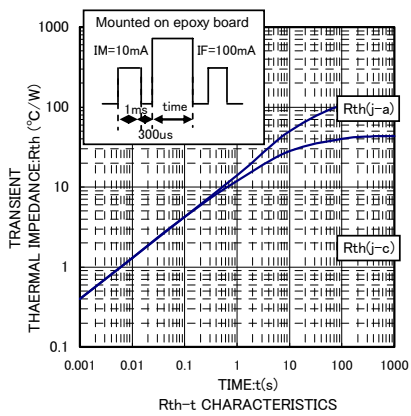
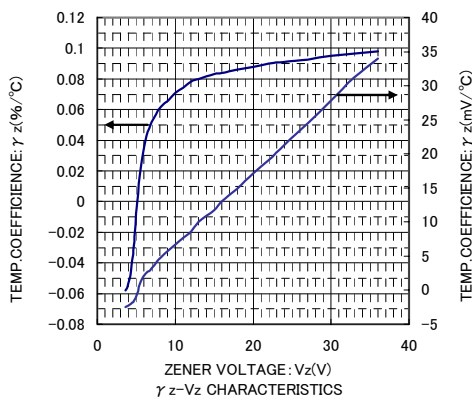
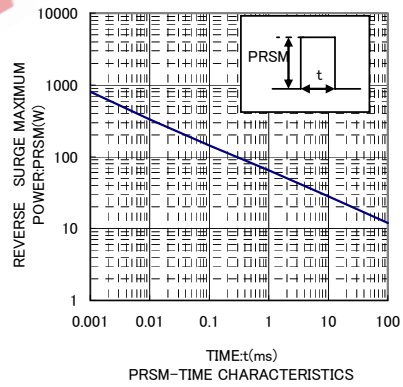
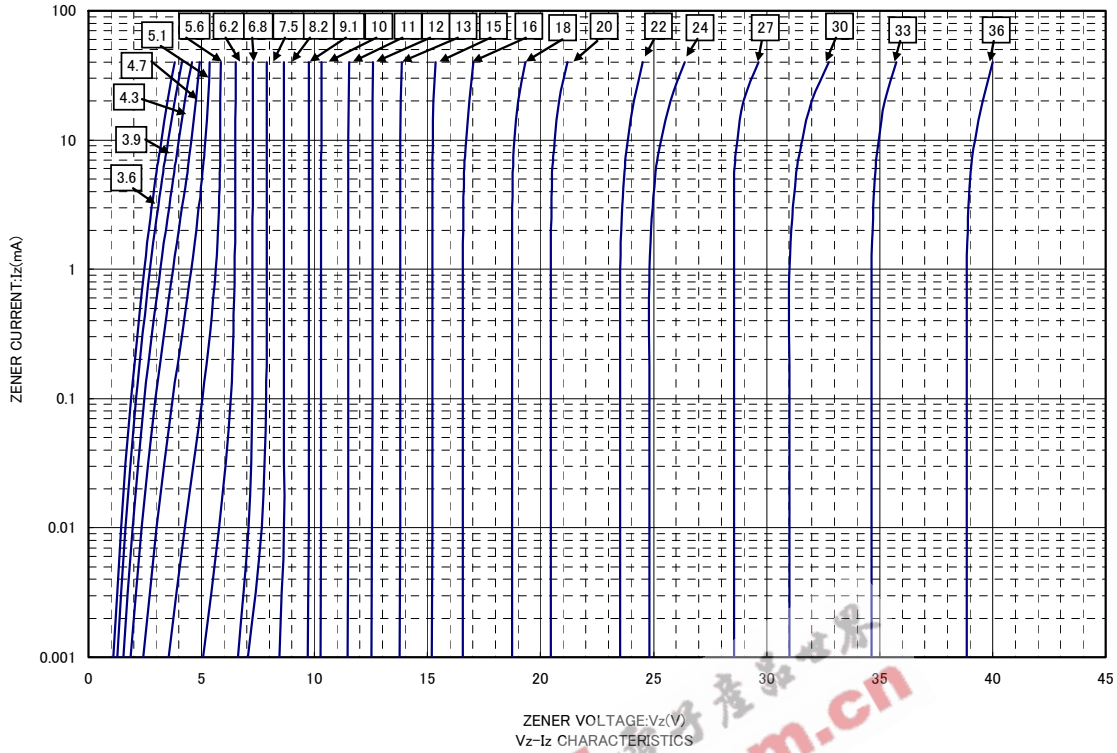
(1)The Zener voltage (Vz) is measured 40ms after power is supplied.

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

## ●Marking (TYPE NO.)

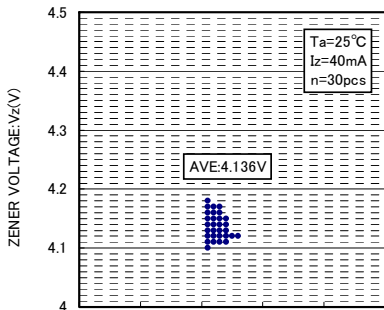
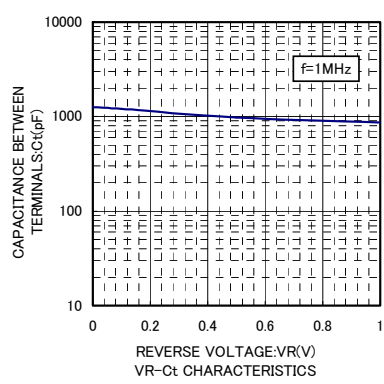
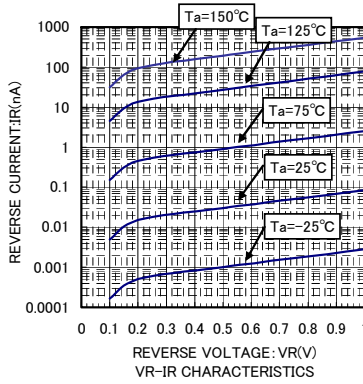
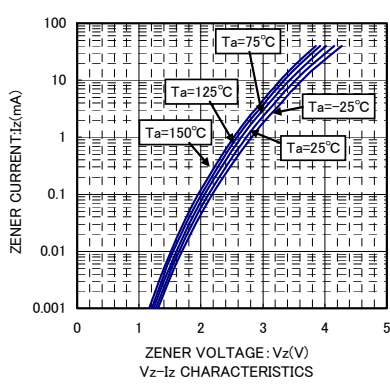
| TYPE     | TYPE NO. | TYPE    | TYPE NO. |
|----------|----------|---------|----------|
| KDZ 3.6B | GB       | KDZ 12B | VB       |
| KDZ 3.9B | HB       | KDZ 13B | WB       |
| KDZ 4.3B | JB       | KDZ 15B | XB       |
| KDZ 4.7B | KB       | KDZ 16B | YB       |
| KDZ 5.1B | LB       | KDZ 18B | ZB       |
| KDZ 5.6B | MB       | KDZ 20B | AD       |
| KDZ 6.2B | NB       | KDZ 22B | BD       |
| KDZ 6.8B | PB       | KDZ 24B | CD       |
| KDZ 7.5B | QB       | KDZ 27B | DD       |
| KDZ 8.2B | RB       | KDZ 30B | ED       |
| KDZ 9.1B | SB       | KDZ 33B | FD       |
| KDZ 10B  | TB       | KDZ 36B | GD       |
| KDZ 11B  | UB       |         |          |

Diodes

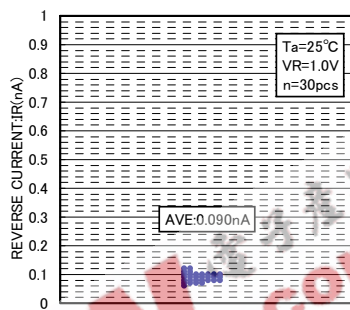


Diodes

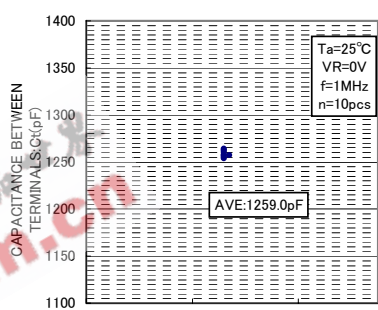
●Electrical characteristic curves (Ta=25°C)



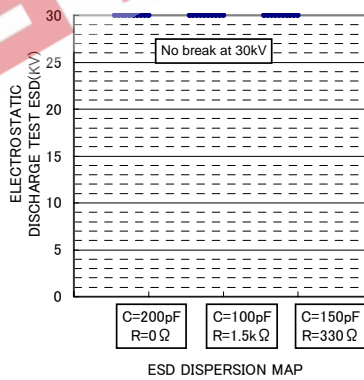
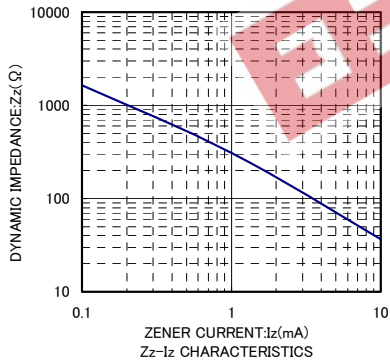
V<sub>z</sub> DISPERSION MAP



I<sub>R</sub> DISPERSION MAP



C<sub>t</sub> DISPERSION MAP



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