

## Zener diode

## UDZS5.1B

## ●Applications

Constant voltage control

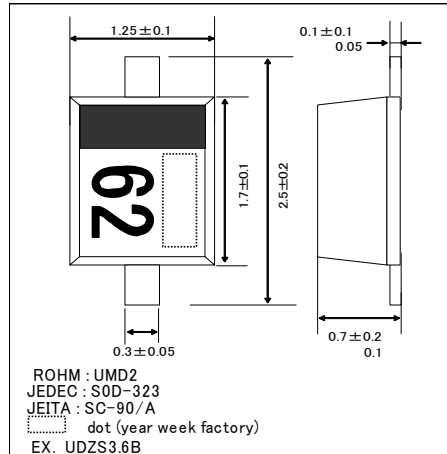
## ●Features

- 1) Compact, 2-pin mini-mold type for high-density mounting. (UMD2)
- 2) High reliability.
- 3) Can be mounted automatically, using chip mounter.

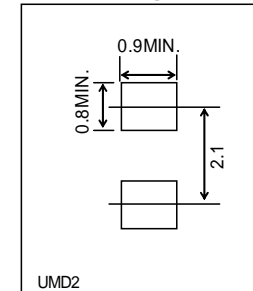
## ●Construction

Silicon epitaxial planar

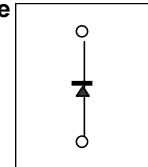
## ●Dimensions (Unit : mm)



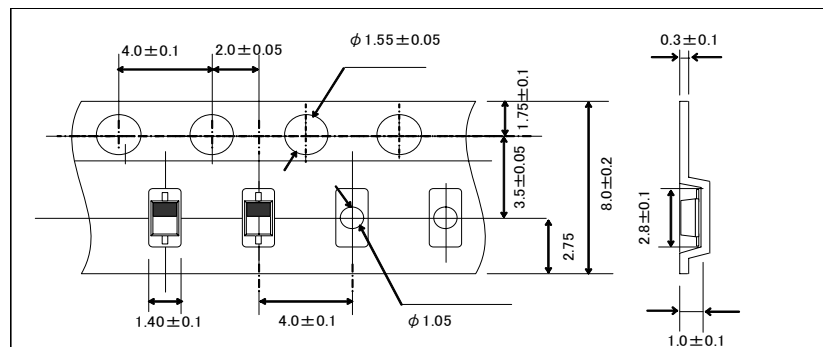
## ●Land size figure (Unit : mm)



## ●Structure



## ●Taping specifications (Unit : mm)



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

| Parameter             | Symbol           | Limits      | Unit |
|-----------------------|------------------|-------------|------|
| Power dissipation     | P                | 200         | mW   |
| Junction temperature  | T <sub>j</sub>   | 150         | °C   |
| Storage temperature   | T <sub>stg</sub> | -55 to +150 | °C   |
| Operating temperature | T <sub>opr</sub> | -55 to +150 | °C   |

## Diodes

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

| TYP.      | Symbol                |        |        |                                       |        |  |        |                                |       |
|-----------|-----------------------|--------|--------|---------------------------------------|--------|--|--------|--------------------------------|-------|
|           | Zener voltage : Vz(V) |        |        | Operating resistance : Zz( $\Omega$ ) |        | Rising operating resistance : Zz( $\Omega$ ) |        | Reverse current : IR( $\mu$ A) |       |
|           | MIN.                  | MAX.   | Iz(mA) | MAX.                                  | Iz(mA) | MAX.   | Iz(mA) | MAX.                           | VR(V) |
| UDZS 3.6B | 3.600                 | 3.845  | 5.0    | 100                                   | 5.0    | 1000   | 1.0    | 10.0                           | 1.0   |
| UDZS 3.9B | 3.890                 | 4.160  | 5.0    | 100                                   | 5.0    | 1000   | 1.0    | 5.0                            | 1.0   |
| UDZS 4.3B | 4.170                 | 4.430  | 5.0    | 100                                   | 5.0    | 1000   | 1.0    | 5.0                            | 1.0   |
| UDZS 4.7B | 4.550                 | 4.750  | 5.0    | 100                                   | 5.0    | 800  | 0.5    | 2.0                            | 1.0   |
| UDZS 5.1B | 4.980                 | 5.200  | 5.0    | 80                                    | 5.0    | 500  | 0.5    | 2.0                            | 1.5   |
| UDZS 5.6B | 5.490                 | 5.730  | 5.0    | 60                                    | 5.0    | 200  | 0.5    | 1.0                            | 2.5   |
| UDZS 6.2B | 6.060                 | 6.330  | 5.0    | 60                                    | 5.0    | 100  | 0.5    | 1.0                            | 3.0   |
| UDZS 6.8B | 6.650                 | 6.930  | 5.0    | 40                                    | 5.0    | 60   | 0.5    | 0.5                            | 3.5   |
| UDZS 7.5B | 7.280                 | 7.600  | 5.0    | 30                                    | 5.0    | 60   | 0.5    | 0.5                            | 4.0   |
| UDZS 8.2B | 8.020                 | 8.360  | 5.0    | 30                                    | 5.0    | 60   | 0.5    | 0.5                            | 5.0   |
| UDZS 9.1B | 8.850                 | 9.230  | 5.0    | 30                                    | 5.0    | 60   | 0.5    | 0.5                            | 6.0   |
| UDZS 10B  | 9.770                 | 10.210 | 5.0    | 30                                    | 5.0    | 60   | 0.5    | 0.1                            | 7.0   |
| UDZS 11B  | 10.760                | 11.220 | 5.0    | 30                                    | 5.0    | 60   | 0.5    | 0.1                            | 8.0   |
| UDZS 12B  | 11.740                | 12.240 | 5.0    | 30                                    | 5.0    | 80   | 0.5    | 0.1                            | 9.0   |
| UDZS 13B  | 12.910                | 13.490 | 5.0    | 37                                    | 5.0    | 80   | 0.5    | 0.1                            | 10.0  |
| UDZS 15B  | 14.340                | 14.980 | 5.0    | 42                                    | 5.0    | 80   | 0.5    | 0.1                            | 11.0  |
| UDZS 16B  | 15.850                | 16.510 | 5.0    | 50                                    | 5.0    | 80   | 0.5    | 0.1                            | 12.0  |
| UDZS 18B  | 17.560                | 18.350 | 5.0    | 65                                    | 5.0    | 80   | 0.5    | 0.1                            | 13.0  |
| UDZS 20B  | 19.520                | 20.390 | 5.0    | 85                                    | 5.0    | 100  | 0.5    | 0.1                            | 15.0  |
| UDZS 22B  | 21.540                | 22.470 | 5.0    | 100                                   | 5.0    | 100  | 0.5    | 0.1                            | 17.0  |
| UDZS 24B  | 23.720                | 24.780 | 5.0    | 120                                   | 5.0    | 120  | 0.5    | 0.1                            | 19.0  |
| UDZS 27B  | 26.190                | 27.530 | 5.0    | 150                                   | 5.0    | 150  | 0.5    | 0.1                            | 21.0  |
| UDZS 30B  | 29.190                | 30.690 | 5.0    | 200                                   | 5.0    | 200  | 0.5    | 0.1                            | 23.0  |
| UDZS 33B  | 32.150                | 33.790 | 5.0    | 250                                   | 5.0    | 250  | 0.5    | 0.1                            | 25.0  |
| UDZS 36B  | 35.070                | 36.870 | 5.0    | 300                                   | 5.0    | 300  | 0.5    | 0.1                            | 27.0  |

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

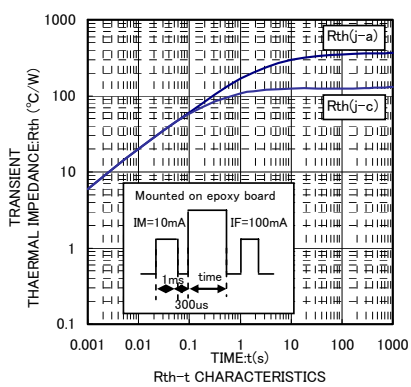
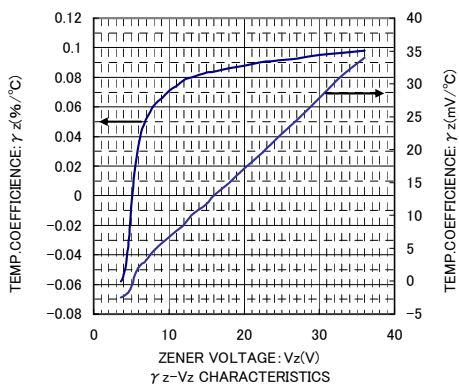
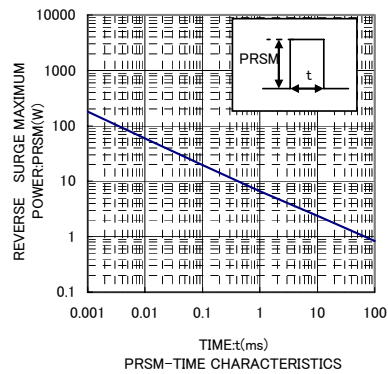
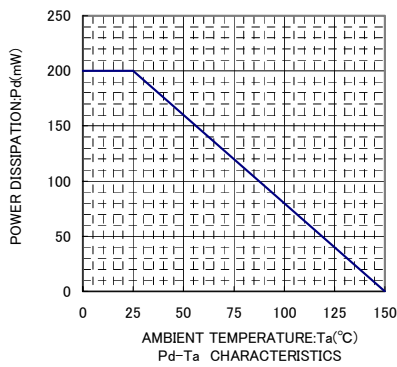
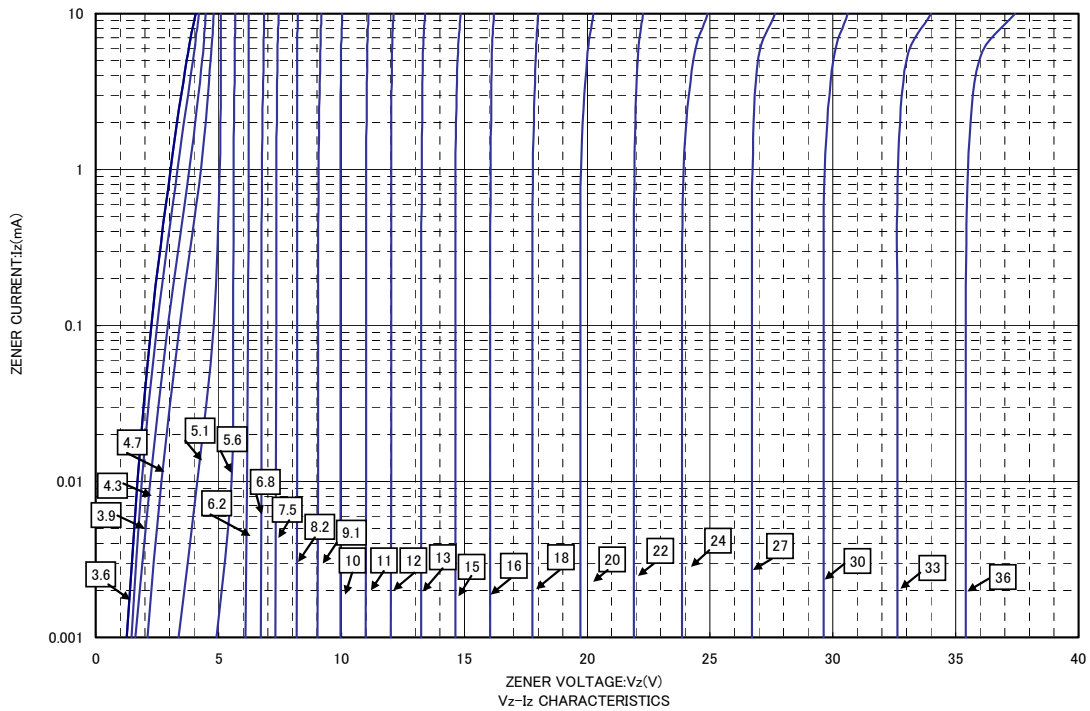
(2) The operating resistances(Zz,Zzk) are measured by superimposing a minute alternating current on the regulated current(Iz)

## ●Type No.

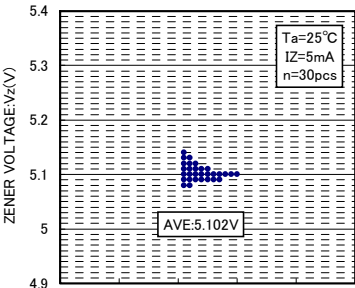
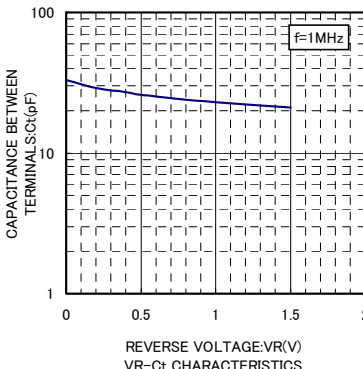
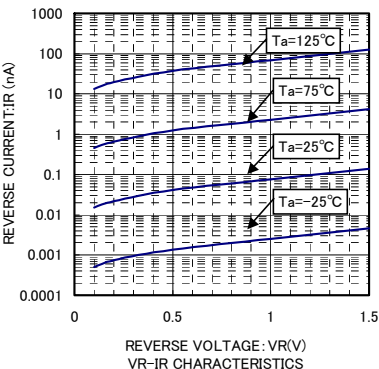
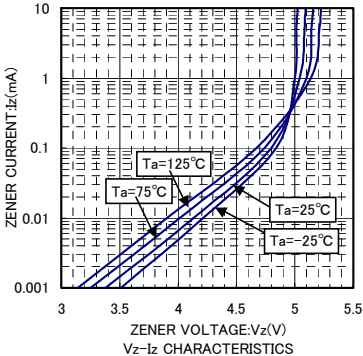
| TYPE      | TYPE NO. | TYPE     | TYPE NO. |
|-----------|----------|----------|----------|
| UDZS 3.6B | 62       | UDZS 12B | 25       |
| UDZS 3.9B | 72       | UDZS 13B | 35       |
| UDZS 4.3B | 82       | UDZS 15B | 45       |
| UDZS 4.7B | 92       | UDZS 16B | 55       |
| UDZS 5.1B | A2       | UDZS 18B | 65       |
| UDZS 5.6B | G2       | UDZS 20B | 75       |
| UDZS 6.2B | E2       | UDZS 22B | 85       |
| UDZS 6.8B | F2       | UDZS 24B | 95       |
| UDZS 7.5B | H2       | UDZS 27B | A5       |
| UDZS 8.2B | J2       | UDZS 30B | C5       |
| UDZS 9.1B | L2       | UDZS 33B | E5       |
| UDZS 10B  | 05       | UDZS 36B | F5       |
| UDZS 11B  | 15       |          |          |

Diodes

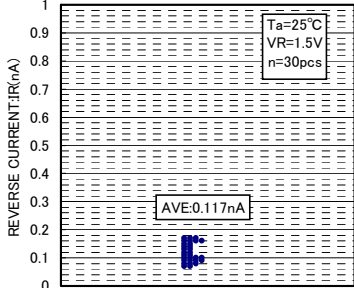
●Electrical characteristic curves (Ta=25°C)



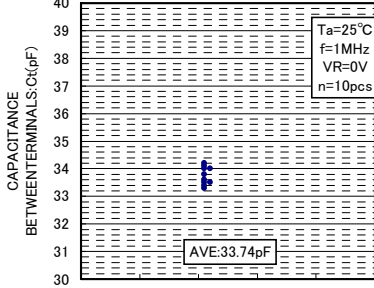
Diodes



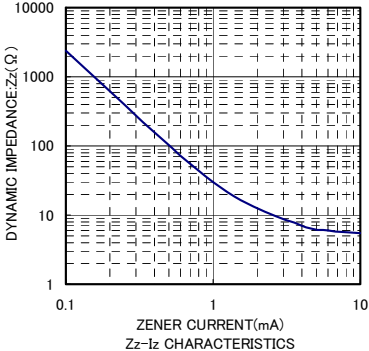
$V_z$  DISRESION MAP



$I_R$  DISRESION MAP



$C_t$  DISRESION MAP



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