

**Panasonic**

## DZ3S120D0L

Silicon epitaxial planar type

For surge absorption circuit

DZ3X120D in SSMINI3 type package

### ■ Features

- Excellent rising characteristics of zener current  $I_Z$
- Low zener operating resistance  $R_Z$
- Halogen-free / RoHS compliant  
(EU RoHS / UL-94 V-0 / MSL:Level 1 compliant)

### ■ Marking Symbol: 05

### ■ Packaging

Embossed type (Thermo-compression sealing) 3 000 pcs / reel (standard)

### ■ Absolute Maximum Ratings $T_a = 25\text{ }^{\circ}\text{C}$

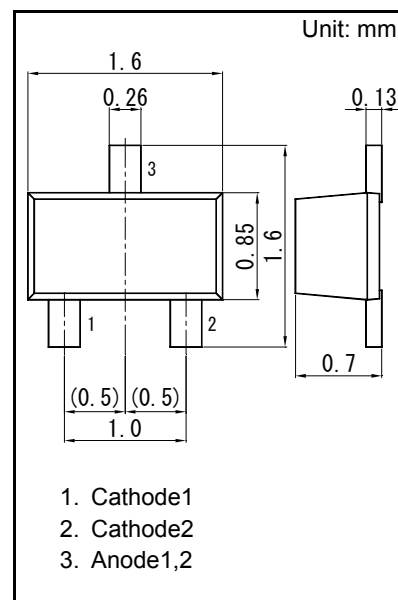
| Parameter                             | Symbol    | Rating      | Unit               |
|---------------------------------------|-----------|-------------|--------------------|
| Total power dissipation <sup>*1</sup> | PT        | 150         | mW                 |
| Electrostatic discharge <sup>*2</sup> | ESD       | ±10         | kV                 |
| Junction temperature                  | $T_j$     | 150         | $^{\circ}\text{C}$ |
| Operating ambient temperature         | $T_{opr}$ | -40 to +85  | $^{\circ}\text{C}$ |
| Storage temperature                   | $T_{stg}$ | -55 to +150 | $^{\circ}\text{C}$ |

Note) \*1: Mounted on glass epoxy print board. ( 45 mm x 45 mm x 1 mm)

(2 Diode total)

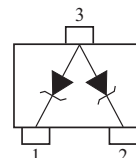
Solder in ( 0.6 mm x 0.6 mm)

\*2: Test method: IEC61000\_4\_2(C = 150 pF, R = 330  $\Omega$ , Contact discharge: 10 times)



|           |              |
|-----------|--------------|
| Panasonic | SSMINI3-F3-B |
| JEITA     | SC-89        |
| Code      | SOT-490      |

### Internal Connection



### ■ Electrical Characteristics $T_a = 25\text{ }^{\circ}\text{C} \pm 3\text{ }^{\circ}\text{C}$

| Parameter                                              | Symbol          | Conditions              | Min   | Typ | Max   | Unit                   |
|--------------------------------------------------------|-----------------|-------------------------|-------|-----|-------|------------------------|
| Forward voltage                                        | V <sub>F</sub>  | I <sub>F</sub> = 10 mA  |       |     | 1.0   | V                      |
| Zener voltage <sup>*1, *2</sup>                        | V <sub>Z</sub>  | I <sub>Z</sub> = 5 mA   | 11.40 |     | 12.60 | V                      |
| Zener operating resistance                             | R <sub>Z</sub>  | I <sub>Z</sub> = 5 mA   |       |     | 30    | $\Omega$               |
| Zener rise operating resistance                        | R <sub>ZK</sub> | I <sub>Z</sub> = 0.5 mA |       |     | 80    | $\Omega$               |
| Reverse current                                        | I <sub>R</sub>  | V <sub>R</sub> = 9 V    |       |     | 0.05  | $\mu\text{A}$          |
| Temperature coefficient of zener voltage <sup>*3</sup> | SZ              | I <sub>Z</sub> = 5 mA   |       | 8.5 |       | mV/ $^{\circ}\text{C}$ |

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7031 Measuring methods for Diodes.

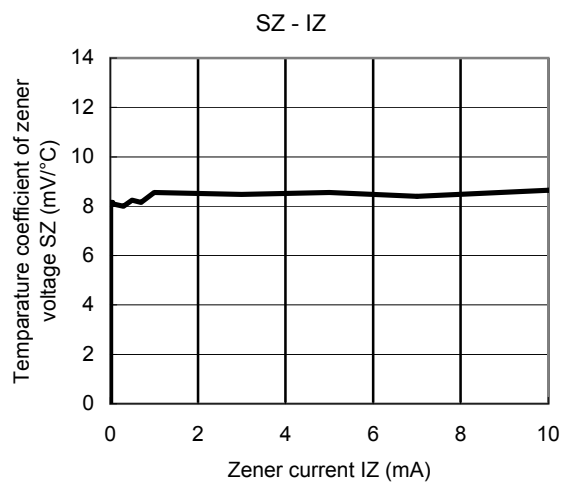
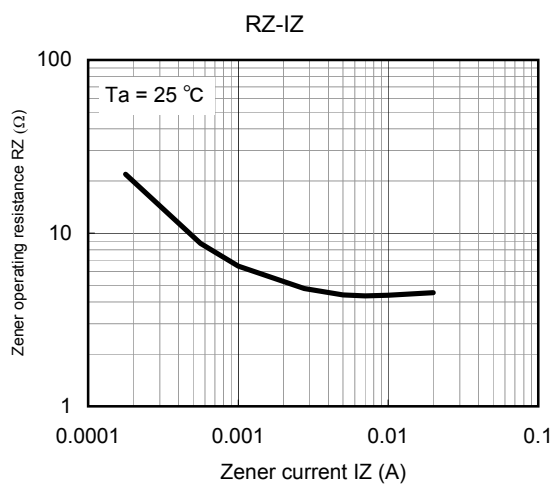
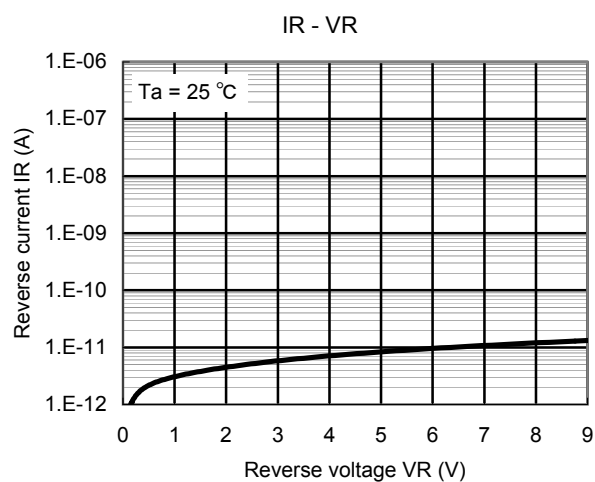
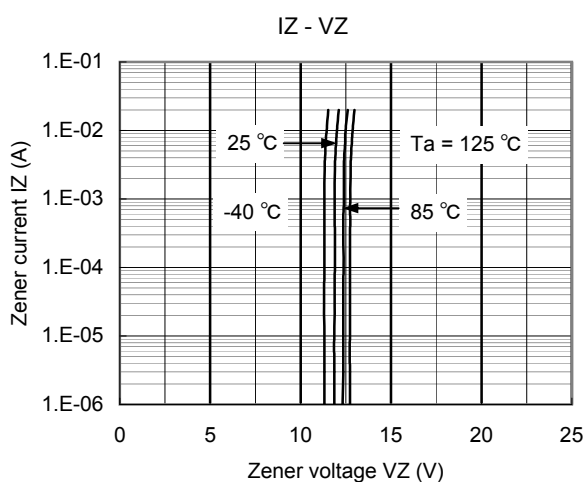
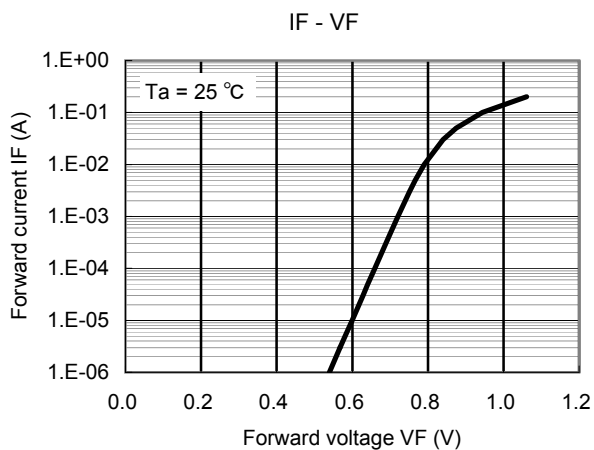
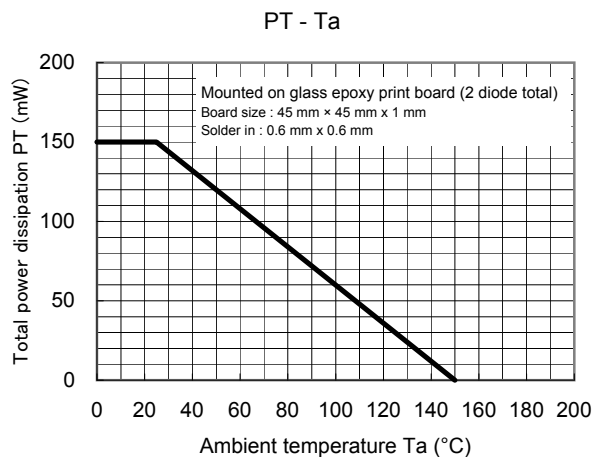
2. \*1: The temperature must be controlled 25 $^{\circ}\text{C}$  for V<sub>Z</sub> measurement.

V<sub>Z</sub> value measured at other temperature must be adjusted to V<sub>Z</sub> (25 $^{\circ}\text{C}$ )

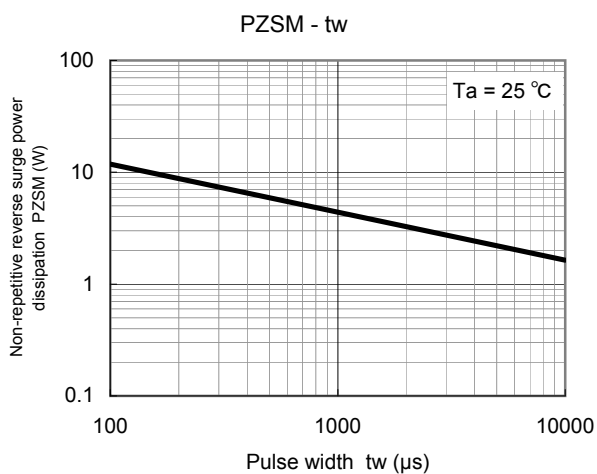
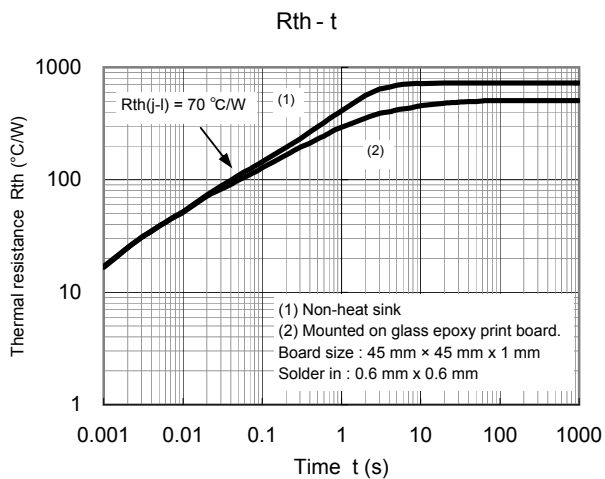
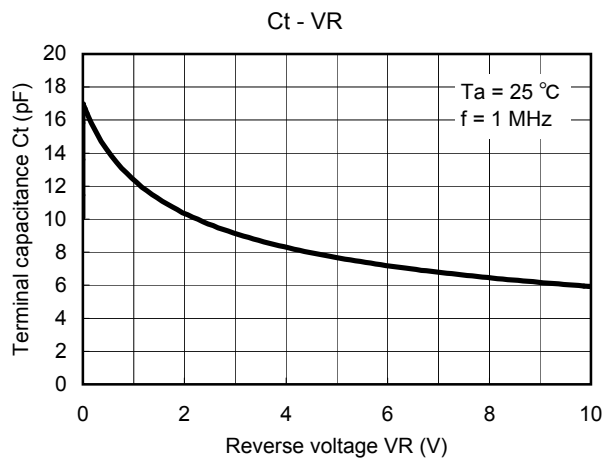
\*2: V<sub>Z</sub> guaranteed 20 ms after current flow.

\*3: T<sub>j</sub> = 25 $^{\circ}\text{C}$  to 150 $^{\circ}\text{C}$

Technical Data ( reference )

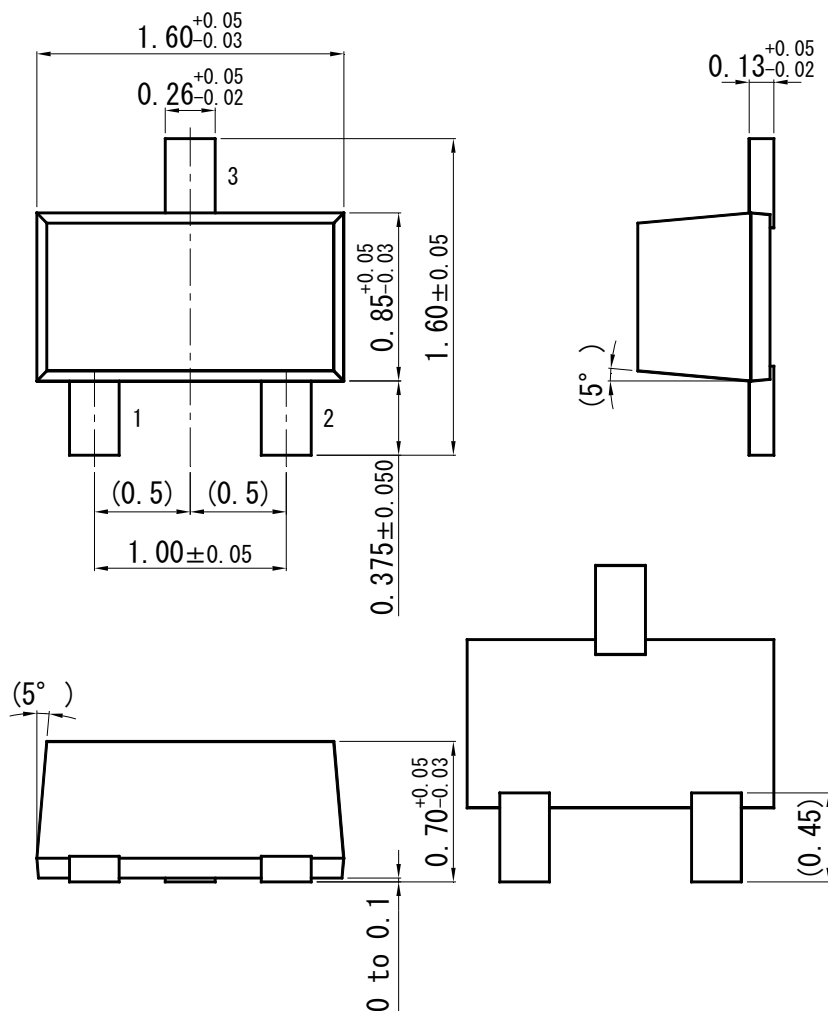


Technical Data ( reference )

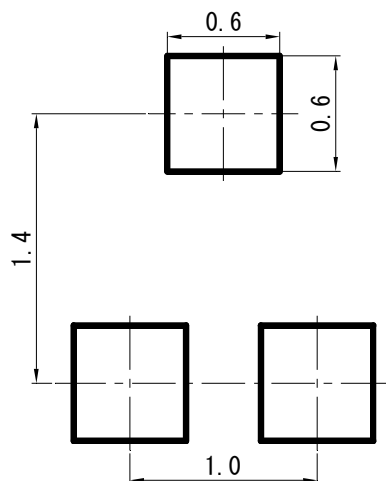


**SSMini3-F3-B**

Unit: mm



■ Land Pattern (Reference) (Unit: mm)



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