

| | | |
|-------|------|----|
| P_D | 1000 | mW |
|-------|------|----|

● Features

- High reliability
- Small power mold type

● Application

- Voltage regulation

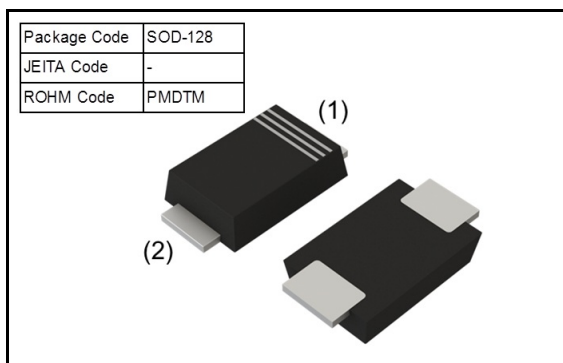
● Structure

- Silicon Epitaxial Planar

● Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

| Parameter | Symbol | Limits | Unit |
|----------------------|-----------|-----------|------------------|
| Power dissipation | P_D | 1000 | mW |
| Junction temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -55 ~ 150 | $^\circ\text{C}$ |

● Outline



● Inner Circuit



● Packaging Specifications

| Packing | Embossed Tape |
|------------------|---------------|
| Reel Size(mm) | 180 |
| Taping Width(mm) | 12 |
| Quantity(pcs) | 3000 |
| Taping Code | TR |
| Marking | 4.7B |

● Electrical Characteristics (T_a = 25°C)

| V _Z Rank(V) | Symbol | | | | | | |
|------------------------|--|--------|---------------------|---------------------------------------|---------------------|--------------------------------------|--------------------|
| | Zener Voltage: V _Z (V) ⁽¹⁾ | | | Dynamic Impedance: Z _Z (Ω) | | Reverse Current: I _R (μA) | |
| | MIN. | MAX | I _Z (mA) | MAX | I _Z (mA) | MAX | V _R (V) |
| 2.0 | 2.000 | 2.240 | 40 | 25 | 40 | 200 | 0.5 |
| 2.2 | 2.200 | 2.450 | 40 | 20 | 40 | 200 | 0.7 |
| 2.4 | 2.400 | 2.700 | 40 | 15 | 40 | 200 | 1.0 |
| 2.7 | 2.700 | 3.100 | 40 | 15 | 40 | 200 | 1.0 |
| 3.0 | 3.000 | 3.400 | 40 | 15 | 40 | 100 | 1.0 |
| 3.3 | 3.300 | 3.700 | 40 | 15 | 40 | 80 | 1.0 |
| 3.6 | 3.600 | 4.000 | 40 | 15 | 40 | 60 | 1.0 |
| 3.9 | 3.900 | 4.400 | 40 | 15 | 40 | 40 | 1.0 |
| 4.3 | 4.300 | 4.800 | 40 | 15 | 40 | 20 | 1.0 |
| 4.7 | 4.700 | 5.200 | 40 | 10 | 40 | 20 | 1.0 |
| 5.1 | 5.100 | 5.700 | 40 | 8 | 40 | 20 | 1.0 |
| 5.6 | 5.600 | 6.300 | 40 | 8 | 40 | 20 | 1.5 |
| 6.2 | 6.200 | 7.000 | 40 | 6 | 40 | 20 | 3.0 |
| 6.8 | 6.800 | 7.700 | 40 | 6 | 40 | 20 | 3.5 |
| 7.5 | 7.500 | 8.400 | 40 | 4 | 40 | 20 | 4.0 |
| 8.2 | 8.200 | 9.300 | 40 | 4 | 40 | 20 | 5.0 |
| 9.1 | 9.100 | 10.200 | 40 | 6 | 40 | 20 | 6.0 |
| 10 | 10.000 | 11.200 | 40 | 6 | 40 | 10 | 7.0 |
| 11 | 11.000 | 12.300 | 20 | 8 | 20 | 10 | 8.0 |
| 12 | 12.000 | 13.500 | 20 | 8 | 20 | 10 | 9.0 |
| 13 | 13.300 | 15.000 | 20 | 10 | 20 | 10 | 10.0 |
| 15 | 14.700 | 16.500 | 20 | 10 | 20 | 10 | 11.0 |
| 16 | 16.200 | 18.300 | 20 | 12 | 20 | 10 | 12.0 |
| 18 | 18.000 | 20.300 | 20 | 12 | 20 | 10 | 13.0 |
| 20 | 20.000 | 22.400 | 20 | 14 | 20 | 10 | 15.0 |
| 22 | 22.000 | 24.500 | 10 | 14 | 10 | 10 | 17.0 |
| 24 | 24.000 | 27.600 | 10 | 16 | 10 | 10 | 19.0 |
| 27 | 27.000 | 30.800 | 10 | 16 | 10 | 10 | 21.0 |
| 30 | 30.000 | 34.000 | 10 | 18 | 10 | 10 | 23.0 |
| 33 | 33.000 | 37.000 | 10 | 18 | 10 | 10 | 25.0 |
| 36 | 36.000 | 40.000 | 10 | 20 | 10 | 10 | 27.0 |

Note(1) V_Z test time is 40ms.

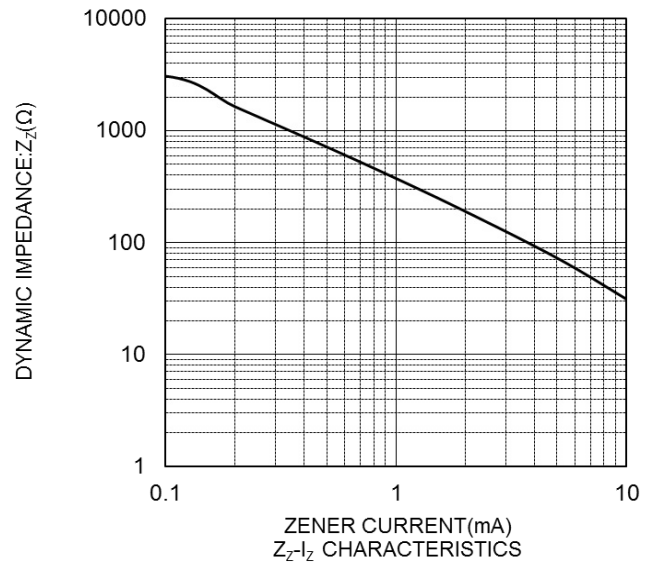
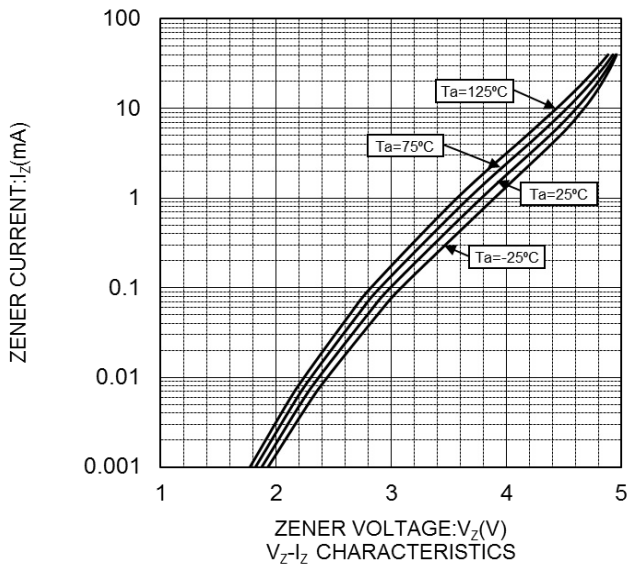
● Markings

| V _Z Rank(V) | Marking | V _Z Rank(V) | Marking |
|------------------------|---------|------------------------|---------|
| 2.0 | 2.0B | 9.1 | 9.1B |
| 2.2 | 2.2B | 10 | 10B |
| 2.4 | 2.4B | 11 | 11B |
| 2.7 | 2.7B | 12 | 12B |
| 3.0 | 3.0B | 13 | 13B |
| 3.3 | 3.3B | 15 | 15B |
| 3.6 | 3.6B | 16 | 16B |
| 3.9 | 3.9B | 18 | 18B |
| 4.3 | 4.3B | 20 | 20B |
| 4.7 | 4.7B | 22 | 22B |
| 5.1 | 5.1B | 24 | 24B |
| 5.6 | 5.6B | 27 | 27B |
| 6.2 | 6.2B | 30 | 30B |
| 6.8 | 6.8B | 33 | 33B |
| 7.5 | 7.5B | 36 | 36B |
| 8.2 | 8.2B | | |

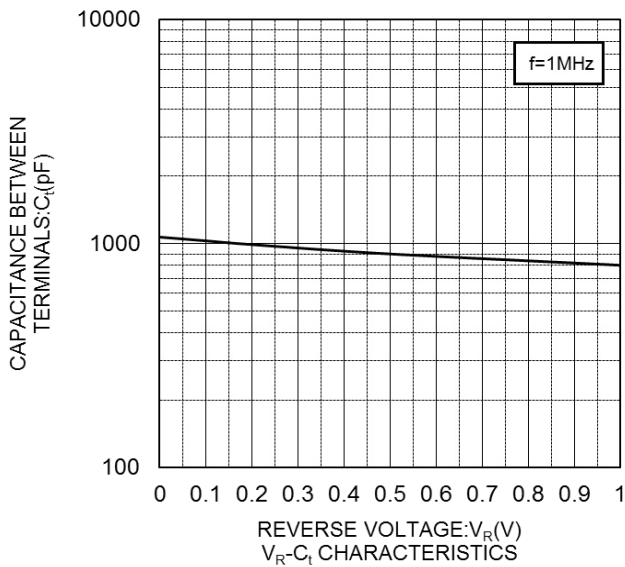
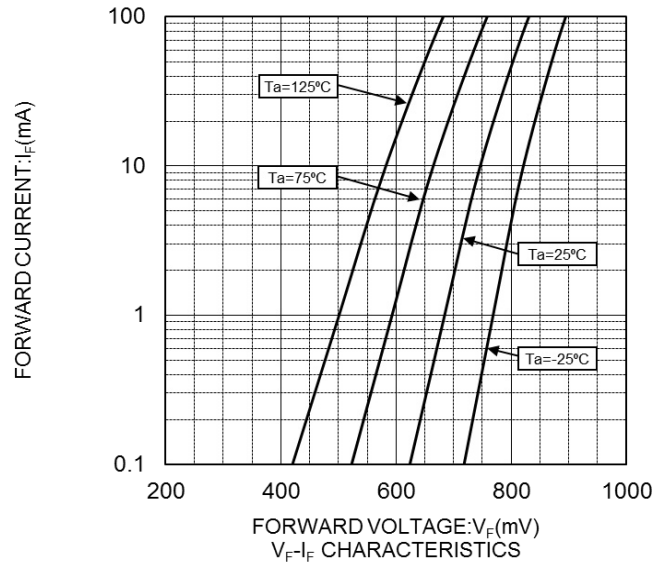
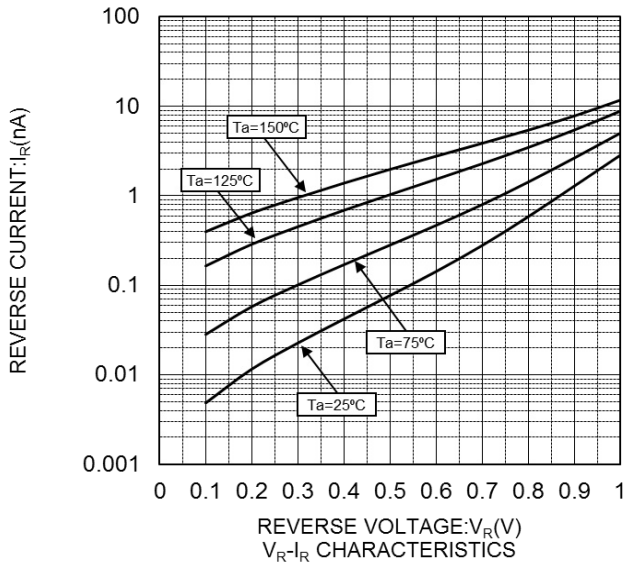
● Characteristic Curves



● Characteristic Curves



● Characteristic Curves



● Dimension

SOD-128, (PMDTM)



| DIM | Millimeters | | | Inches | | |
|-----|-------------|---------|------|--------|---------|-------|
| | Min. | Average | Max. | Min. | Average | Max. |
| A | 0.85 | 0.95 | 1.05 | 0.033 | 0.037 | 0.041 |
| b | 1.30 | 1.50 | 1.70 | 0.051 | 0.059 | 0.067 |
| c | 0.12 | 0.17 | 0.27 | 0.005 | 0.007 | 0.011 |
| D | 2.30 | 2.50 | 2.70 | 0.091 | 0.098 | 0.106 |
| E | 3.50 | 3.70 | 3.90 | 0.138 | 0.146 | 0.154 |
| HE | 4.56 | 4.70 | 4.84 | 0.180 | 0.185 | 0.191 |
| Lp | - | 0.75 | - | - | 0.030 | - |
| l1 | - | 1.40 | - | - | 0.055 | - |
| b3 | - | 2.00 | - | - | 0.079 | - |
| e1 | - | 4.40 | - | - | 0.173 | - |

(1) The marking bar indicates the cathode.
 (2) The direction indicates the anode.

● Taping (Unit:mm)



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(Note1) Medical Equipment Classification of the Specific Applications

| JAPAN | USA | EU | CHINA |
|-----------|-----------|------------|-----------|
| CLASS III | CLASS III | CLASS II b | CLASS III |
| CLASS IV | | CLASS III | |

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 - Use of our Products in places where the Products are exposed to sea wind or corrosive gases, including Cl₂, H₂S, NH₃, SO₂, and NO₂
 - Use of our Products in places where the Products are exposed to static electricity or electromagnetic waves
 - Use of our Products in proximity to heat-producing components, plastic cords, or other flammable items
 - Sealing or coating our Products with resin or other coating materials
 - Use of our Products without cleaning residue of flux (Exclude cases where no-clean type fluxes is used. However, recommend sufficiently about the residue.) ; or Washing our Products by using water or water-soluble cleaning agents for cleaning residue after soldering
 - Use of the Products in places subject to dew condensation
- The Products are not subject to radiation-proof design.
- Please verify and confirm characteristics of the final or mounted products in using the Products.
- In particular, if a transient load (a large amount of load applied in a short period of time, such as pulse, is applied, confirmation of performance characteristics after on-board mounting is strongly recommended. Avoid applying power exceeding normal rated power; exceeding the power rating under steady-state loading condition may negatively affect product performance and reliability.
- De-rate Power Dissipation depending on ambient temperature. When used in sealed area, confirm that it is the use in the range that does not exceed the maximum junction temperature.
- Confirm that operation temperature is within the specified range described in the product specification.
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- In principle, the reflow soldering method must be used on a surface-mount products, the flow soldering method must be used on a through hole mount products. If the flow soldering method is preferred on a surface-mount products, please consult with the ROHM representative in advance.

For details, please refer to ROHM Mounting specification

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Precaution for Storage / Transportation

1. Product performance and soldered connections may deteriorate if the Products are stored in the places where:
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 - [b] the temperature or humidity exceeds those recommended by ROHM
 - [c] the Products are exposed to direct sunshine or condensation
 - [d] the Products are exposed to high Electrostatic
2. Even under ROHM recommended storage condition, solderability of products out of recommended storage time period may be degraded. It is strongly recommended to confirm solderability before using Products of which storage time is exceeding the recommended storage time period.
3. Store / transport cartons in the correct direction, which is indicated on a carton with a symbol. Otherwise bent leads may occur due to excessive stress applied when dropping of a carton.
4. Use Products within the specified time after opening a humidity barrier bag. Baking is required before using Products of which storage time is exceeding the recommended storage time period.

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