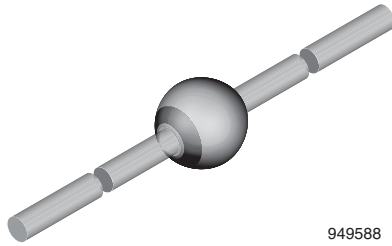




# Standard Avalanche Sinterglass Diode



949588

### DESIGN SUPPORT TOOLS

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### FEATURES

- Glass passivated junction
- Hermetically sealed package
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS COMPLIANT HALOGEN FREE

### APPLICATIONS

- High voltage rectification
- Efficiency diode in horizontal deflection circuits

### MECHANICAL DATA

Case: SOD-64

Terminals: plated axial leads, solderable per MIL-STD-750, method 2026

Polarity: color band denotes cathode end

Mounting position: any

Weight: approx. 858 mg

| ORDERING INFORMATION (Example) |               |                            |                        |
|--------------------------------|---------------|----------------------------|------------------------|
| DEVICE NAME                    | ORDERING CODE | TAPED UNITS                | MINIMUM ORDER QUANTITY |
| BY228-15                       | BY228-15TR    | 2500 per 10" tape and reel | 12 500                 |
| BY228-15                       | BY228-15TAP   | 2500 per ammpack           | 12 500                 |

| PARTS TABLE |   |         |
|-------------|---|---------|
| PART        | TYPE DIFFERENTIATION                          | PACKAGE |
| BY228-13    | $V_R = 1000\text{ V}; I_{F(AV)} = 3\text{ A}$ | SOD-64  |
| BY228-15    | $V_R = 1200\text{ V}; I_{F(AV)} = 3\text{ A}$ | SOD-64  |

| ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25\text{ }^\circ\text{C}$ , unless otherwise specified) |                                       |          |             |             |                  |
|---|---------------------------------------|----------|-------------|-------------|------------------|
| PARAMETER   | TEST CONDITION                        | PART     | SYMBOL      | VALUE       | UNIT             |
| Reverse voltage   | See electrical characteristics        | BY228-13 | $V_R$       | 1000        | V                |
|   |                                       | BY228-15 | $V_R$       | 1200        | V                |
| Peak reverse voltage, non repetitive  | $I_R = 100\text{ }\mu\text{A}$        | BY228-13 | $V_{RSM}$   | 1300        | V                |
|   |                                       | BY228-15 | $V_{RSM}$   | 1500        | V                |
| Peak forward surge current  | $t_p = 10\text{ ms}$ , half sine wave |          | $I_{FSM}$   | 50          | A                |
| Average forward current   |                                       |          | $I_{F(AV)}$ | 3           | A                |
| Junction temperature  |                                       |          | $T_j$       | 140         | $^\circ\text{C}$ |
| Storage temperature range   |                                       |          | $T_{stg}$   | -55 to +175 | $^\circ\text{C}$ |
| Non repetitive reverse avalanche energy   | $I_{(BR)} = 0.4\text{ A}$             |          | $E_R$       | 10          | mJ               |

| MAXIMUM THERMAL RESISTANCE ( $T_{amb} = 25\text{ }^\circ\text{C}$ , unless otherwise specified) |                                |            |       |      |
|---|--------------------------------|------------|-------|------|
| PARAMETER   | TEST CONDITION                 | SYMBOL     | VALUE | UNIT |
| Junction ambient  | On PC board with spacing 25 mm | $R_{thJA}$ | 70    | K/W  |

| ELECTRICAL CHARACTERISTICS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified) |   |          |          |      |      |      |               |
|---|---|----------|----------|------|------|------|---------------|
| PARAMETER   | TEST CONDITION  | PART     | SYMBOL   | MIN. | TYP. | MAX. | UNIT          |
| Forward voltage   | $I_F = 5\text{ A}$  |          | $V_F$    | -    | -    | 1.5  | V             |
| Reverse current   | $V_R = 1000\text{ V}$                                       | BY228-13 | $I_R$    | -    | 2    | 5    | $\mu\text{A}$ |
|   | $V_R = 1200\text{ V}$                                       | BY228-15 | $I_R$    | -    | 2    | 5    | $\mu\text{A}$ |
|   | $V_R = 1000\text{ V}, T_J = 140\text{ }^{\circ}\text{C}$    | BY228-13 | $I_R$    | -    | -    | 140  | $\mu\text{A}$ |
|   | $V_R = 1200\text{ V}, T_J = 140\text{ }^{\circ}\text{C}$    | BY228-15 | $I_R$    | -    | -    | 140  | $\mu\text{A}$ |
| Reverse recovery time   | $I_F = 0.5\text{ A}, I_R = 1\text{ A}, t_R = 0.25\text{ A}$ |          | $t_{rr}$ | -    | -    | 2    | $\mu\text{s}$ |
| Total reverse recovery time   | $I_F = 1\text{ A}, -di_F/dt = 0.05\text{ A}/\mu\text{s}$    |          | $t_{rr}$ | -    | -    | 20   | $\mu\text{s}$ |

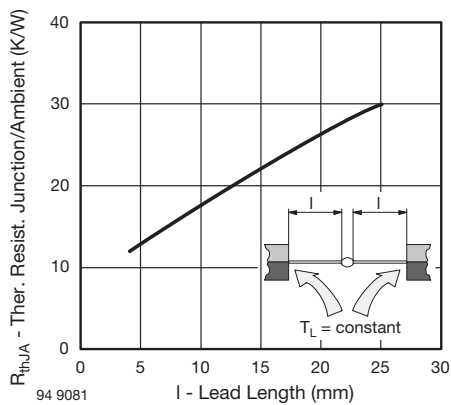
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


Fig. 1 - Typ. Thermal Resistance vs. Lead Length

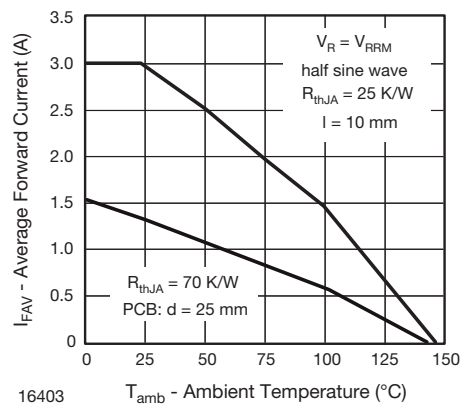


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

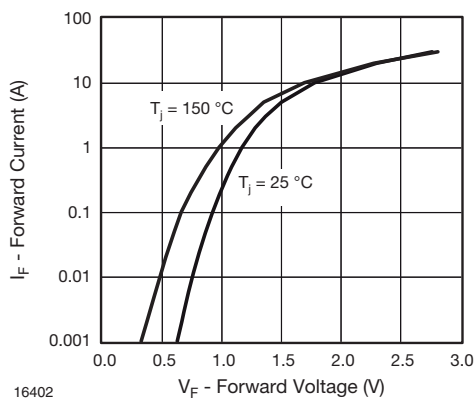


Fig. 2 - Forward Current vs. Forward Voltage

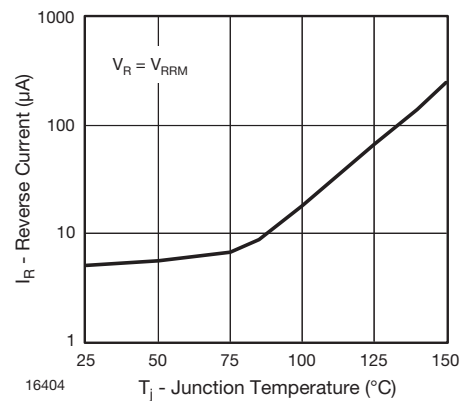


Fig. 4 - Reverse Current vs. Junction Temperature

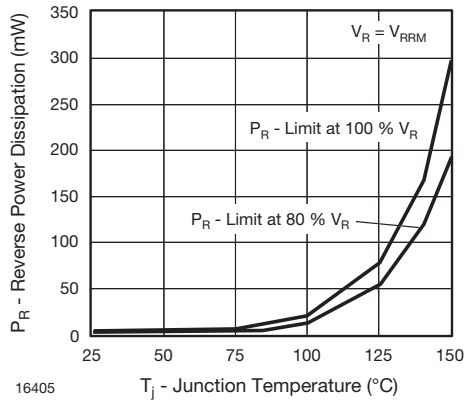


Fig. 5 - Diode Capacitance vs. Reverse Voltage

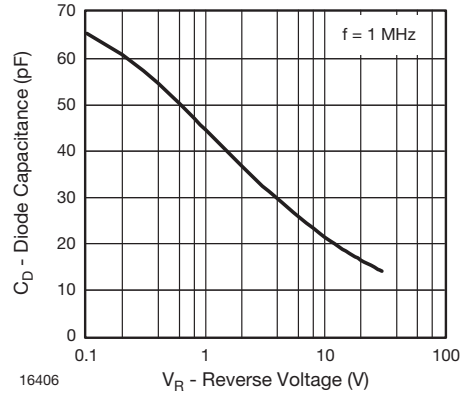
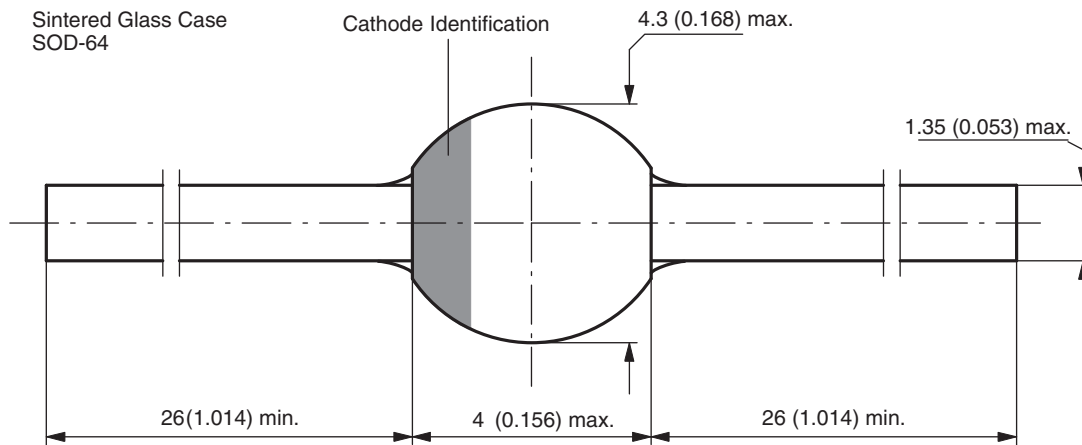


Fig. 6 - Diode Capacitance vs. Reverse Voltage

**PACKAGE DIMENSIONS** in millimeters (inches): **SOD-64**



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