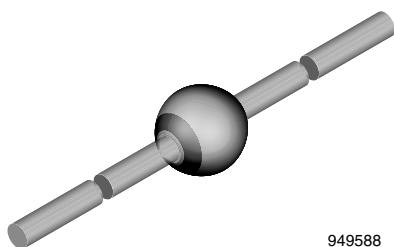


## Ultra-Fast Avalanche Sinterglass Diode



### FEATURES

- High reverse voltage
- Glass passivated
- Low reverse current
- Low forward voltage drop
- Hermetically sealed axial-leaded glass envelope
- Material categorization:  
for definitions of compliance please see  
[www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**

### LINKS TO ADDITIONAL RESOURCES



### 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

### APPLICATIONS

- Switched mode power supplies
- High-frequency inverter circuits

### ORDERING INFORMATION (Example)

| DEVICE NAME | ORDERING CODE | TAPED UNITS                | MINIMUM ORDER QUANTITY |
|-------------|---------------|----------------------------|------------------------|
| BYV98-200   | BYV98-200-TR  | 2500 per 10" tape and reel | 12 500                 |
| BYV98-200   | BYV98-200-TAP | 2500 per ammpack           | 12 500                 |

### PARTS TABLE

| PART      | TYPE DIFFERENTIATION                            | PACKAGE |
|-----------|-------------------------------------------------|---------|
| BYV98-50  | $V_R = 50\text{ V}$ ; $I_{F(AV)} = 4\text{ A}$  | SOD-64  |
| BYV98-100 | $V_R = 100\text{ V}$ ; $I_{F(AV)} = 4\text{ A}$ | SOD-64  |
| BYV98-150 | $V_R = 150\text{ V}$ ; $I_{F(AV)} = 4\text{ A}$ | SOD-64  |
| BYV98-200 | $V_R = 200\text{ V}$ ; $I_{F(AV)} = 4\text{ A}$ | SOD-64  |

### ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

| PARAMETER                                         | TEST CONDITION                                              | PART      | SYMBOL          | VALUE       | UNIT               |
|---------------------------------------------------|-------------------------------------------------------------|-----------|-----------------|-------------|--------------------|
| Reverse voltage = repetitive peak reverse voltage | See electrical characteristics                              | BYV98-50  | $V_R = V_{RRM}$ | 50          | V                  |
|                                                   |                                                             | BYV98-100 | $V_R = V_{RRM}$ | 100         | V                  |
|                                                   |                                                             | BYV98-150 | $V_R = V_{RRM}$ | 150         | V                  |
|                                                   |                                                             | BYV98-200 | $V_R = V_{RRM}$ | 200         | V                  |
| Peak forward surge current                        | $t_p = 10\text{ ms}$ , half sine wave                       |           | $I_{FSM}$       | 70          | A                  |
| Average forward current                           | $T_{amb} = 30\text{ }^{\circ}\text{C}$ , $I = 10\text{ mm}$ |           | $I_{F(AV)}$     | 4           | A                  |
| Junction and storage temperature range            |                                                             |           | $T_j = T_{stg}$ | -55 to +175 | $^{\circ}\text{C}$ |
| Non repetitive reverse avalanche energy           | $I_{(BR)R} = 1\text{ A}$                                    |           | $E_R$           | 20          | mJ                 |

**MAXIMUM THERMAL RESISTANCE** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

| PARAMETER        | TEST CONDITION                                           | SYMBOL     | VALUE | UNIT |
|------------------|----------------------------------------------------------|------------|-------|------|
| Junction ambient | Lead length $l = 10\text{ mm}$ , $T_L = \text{constant}$ | $R_{thJA}$ | 25    | 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           | $I_F = 5\text{ A}$                                                |           | $V_F$       | -    | -    | 1.1  | V             |
| Reverse current           | $V_R = V_{RRM}$                                                   |           | $I_R$       | -    | -    | 10   | $\mu\text{A}$ |
|                           | $V_R = V_{RRM}$ , $T_J = 150\text{ }^{\circ}\text{C}$             |           | $I_R$       | -    | -    | 200  | $\mu\text{A}$ |
| Reverse breakdown voltage | $I_R = 100\text{ }\mu\text{A}$                                    | BYV98-50  | $V_{(BR)R}$ | 60   | -    | -    | V             |
|                           |                                                                   | BYV98-100 | $V_{(BR)R}$ | 120  | -    | -    | V             |
|                           |                                                                   | BYV98-150 | $V_{(BR)R}$ | 170  | -    | -    | V             |
|                           |                                                                   | BYV98-200 | $V_{(BR)R}$ | 220  | -    | -    | V             |
| Reverse recovery time     | $I_F = 0.5\text{ A}$ , $I_R = 1\text{ A}$ , $i_R = 0.25\text{ A}$ |           | $t_{rr}$    | -    | -    | 35   | ns            |

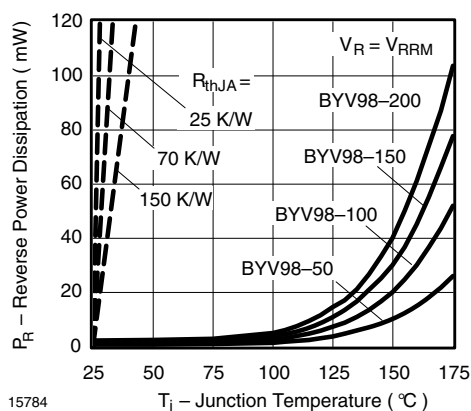
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

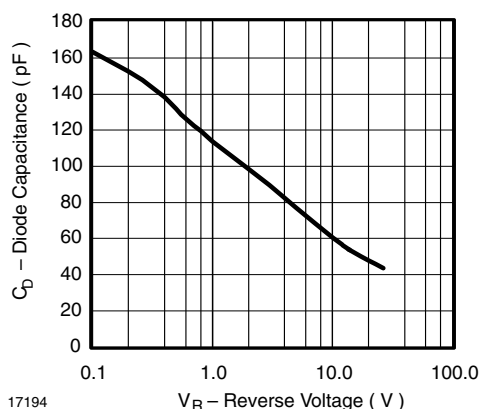


Fig. 3 - Diode Capacitance vs. Reverse Voltage

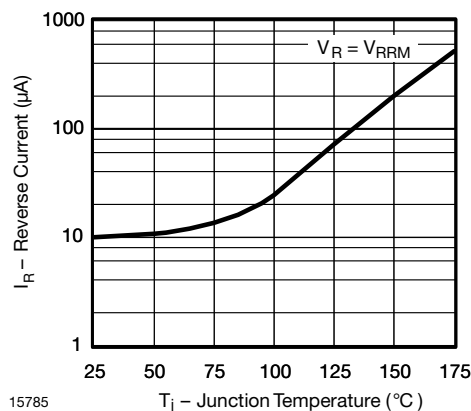


Fig. 2 - Max. Reverse Current vs. Junction Temperature

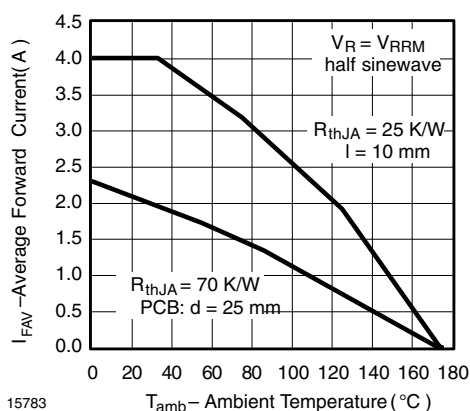


Fig. 4 - Max. Average Forward Current vs. Ambient Temperature

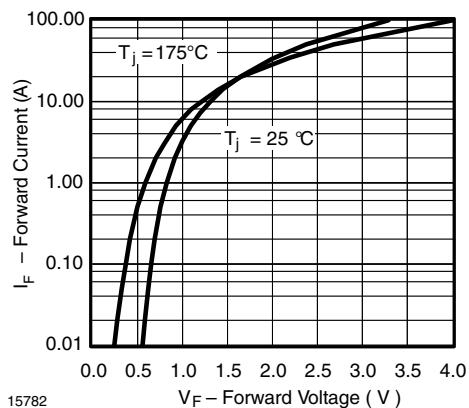
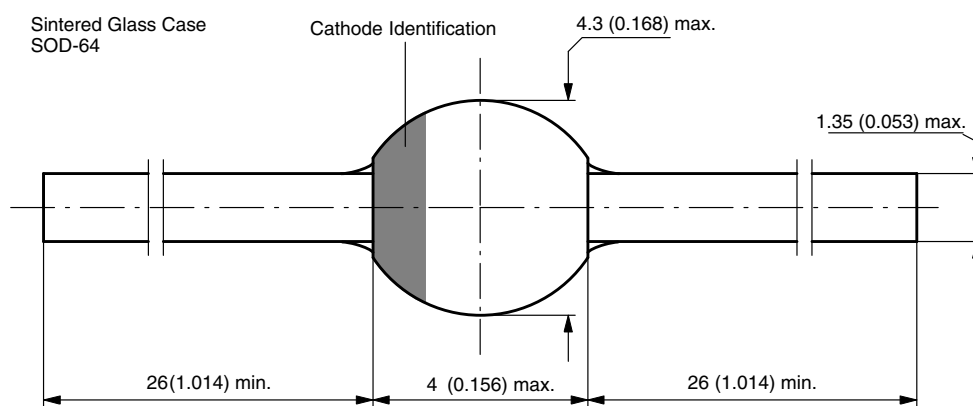


Fig. 5 - Max. Forward Current vs. Forward Voltage

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



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