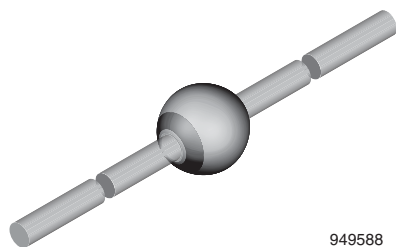




## Ultra-Fast Avalanche Sinterglass Diode



949588

## DESIGN SUPPORT TOOLS

[click logo to get started](#)

## 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

## FEATURES

- Controlled avalanche characteristic
- Low forward voltage
- Ultra fast recovery time
- Glass passivated junction
- Hermetically sealed package
- AEC-Q101 qualified
- Material categorization:  
for definitions of compliance please see  
[www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



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

## APPLICATIONS

- Very fast rectification e.g. for switch mode power supply

## ORDERING INFORMATION (Example)

| DEVICE NAME | ORDERING CODE | TAPED UNITS                | MINIMUM ORDER QUANTITY |
|-------------|---------------|----------------------------|------------------------|
| BYV28-200   | BYV28-200-TR  | 2500 per 10" tape and reel | 12 500                 |
| BYV28-200   | BYV28-200-TAP | 2500 per ammpack           | 12 500                 |

## PARTS TABLE

| PART      | TYPE DIFFERENTIATION                              | PACKAGE |
|-----------|---------------------------------------------------|---------|
| BYV28-50  | $V_R = 50\text{ V}$ ; $I_{F(AV)} = 3.5\text{ A}$  | SOD-64  |
| BYV28-100 | $V_R = 100\text{ V}$ ; $I_{F(AV)} = 3.5\text{ A}$ | SOD-64  |
| BYV28-150 | $V_R = 150\text{ V}$ ; $I_{F(AV)} = 3.5\text{ A}$ | SOD-64  |
| BYV28-200 | $V_R = 200\text{ V}$ ; $I_{F(AV)} = 3.5\text{ A}$ | SOD-64  |

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

| PARAMETER                                                                  | TEST CONDITION                                  | PART      | SYMBOL          | VALUE       | UNIT |
|----------------------------------------------------------------------------|-------------------------------------------------|-----------|-----------------|-------------|------|
| Reverse voltage = repetitive peak reverse voltage                          | See electrical characteristics                  | BYV28-50  | $V_R = V_{RRM}$ | 50          | V    |
|                                                                            |                                                 | BYV28-100 | $V_R = V_{RRM}$ | 100         | V    |
|                                                                            |                                                 | BYV28-150 | $V_R = V_{RRM}$ | 150         | V    |
|                                                                            |                                                 | BYV28-200 | $V_R = V_{RRM}$ | 200         | V    |
| Peak reverse voltage, non repetitive                                       | See electrical characteristics                  | BYV28-50  | $V_{RSM}$       | 55          | V    |
|                                                                            |                                                 | BYV28-100 | $V_{RSM}$       | 110         | V    |
|                                                                            |                                                 | BYV28-150 | $V_{RSM}$       | 165         | V    |
|                                                                            |                                                 | BYV28-200 | $V_{RSM}$       | 220         | V    |
| Peak forward surge current                                                 | $t_p = 10\text{ ms}$ , half sine wave           |           | $I_{FSM}$       | 90          | A    |
| Repetitive peak forward current                                            |                                                 |           | $I_{FRM}$       | 25          | A    |
| Average forward current                                                    |                                                 |           | $I_{F(AV)}$     | 3.5         | A    |
| Pulse energy in avalanche mode, non repetitive (inductive load switch off) | $I_{(BR)} = 1\text{ A}$ , $T_j = 175\text{ °C}$ |           | $E_R$           | 20          | mJ   |
| Junction and storage temperature range                                     |                                                 |           | $T_j = T_{stg}$ | -55 to +175 | °C   |



## MAXIMUM THERMAL RESISTANCE ( $T_{amb} = 25^{\circ}\text{C}$ , 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  |
|                  | On PC board with spacing 25 mm                           | $R_{thJA}$ | 70    | K/W  |

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

| PARAMETER             | TEST CONDITION                                                    | PART | SYMBOL   | MIN. | TYP. | MAX. | UNIT          |
|-----------------------|-------------------------------------------------------------------|------|----------|------|------|------|---------------|
| Forward voltage       | $I_F = 5\text{ A}$                                                |      | $V_F$    | -    | -    | 1.1  | V             |
|                       | $I_F = 5\text{ A}$ , $T_j = 175^{\circ}\text{C}$                  |      | $V_F$    | -    | -    | 0.89 | V             |
| Reverse current       | $V_R = V_{RRM}$                                                   |      | $I_R$    | -    | -    | 1    | $\mu\text{A}$ |
|                       | $V_{RSM}$                                                         |      | $I_R$    | -    | -    | 100  | $\mu\text{A}$ |
|                       | $V_R = V_{RRM}$ , $T_j = 165^{\circ}\text{C}$                     |      | $I_R$    | -    | -    | 150  | $\mu\text{A}$ |
| Reverse recovery time | $I_F = 0.5\text{ A}$ , $I_R = 1\text{ A}$ , $I_R = 0.25\text{ A}$ |      | $t_{rr}$ | -    | -    | 30   | ns            |

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

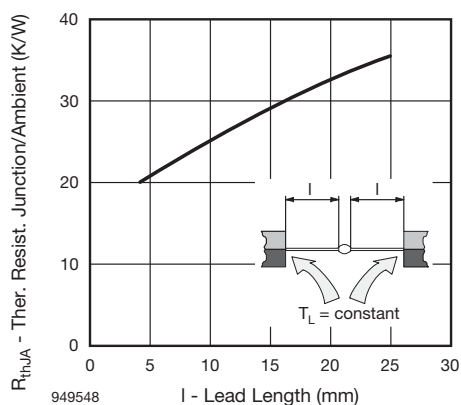


Fig. 1 - Max. Thermal Resistance vs. Lead Length

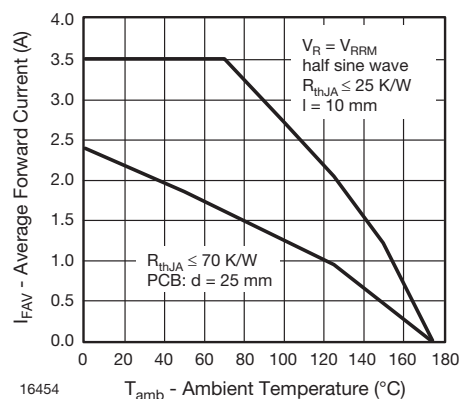


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

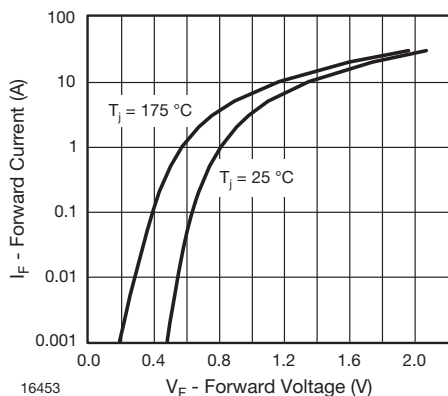


Fig. 2 - Forward Current vs. Forward Voltage

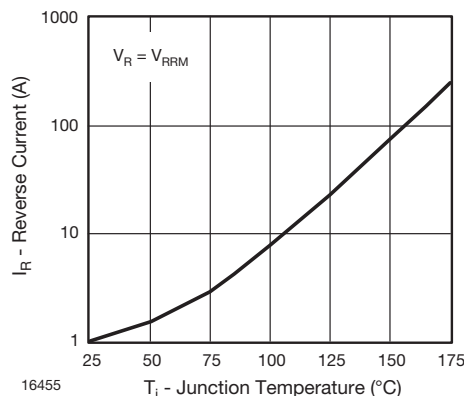


Fig. 4 - Reverse Current vs. Junction Temperature

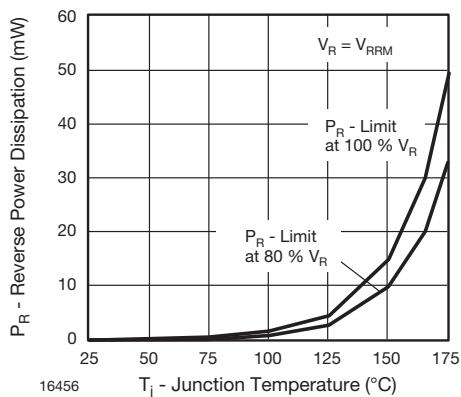


Fig. 5 - Max. Reverse Power Dissipation vs. Junction Temperature

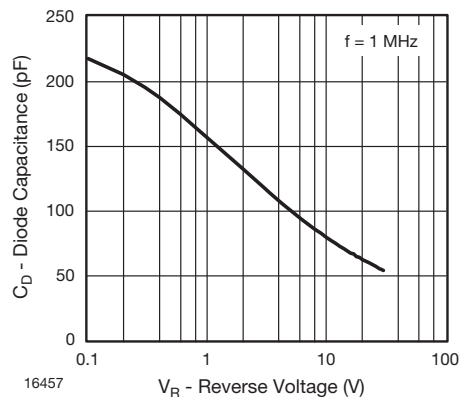
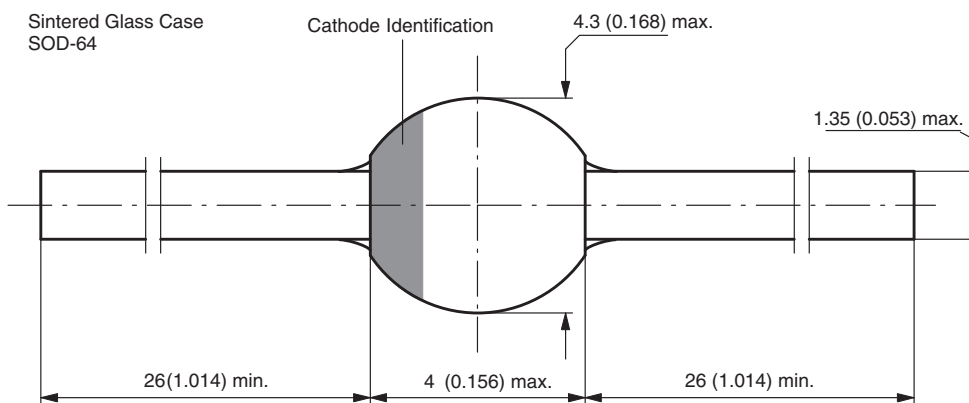


Fig. 6 - Diode Capacitance vs. Reverse Voltage

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



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94 9587



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