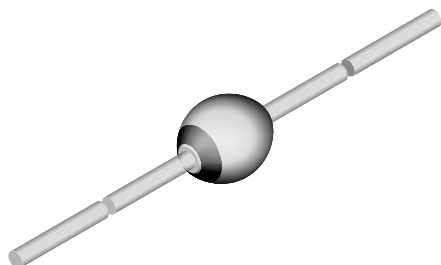


## Fast Avalanche Sinterglass Diode



949539

### FEATURES

- Glass passivated junction
- Hermetically sealed package
- Low reverse current
- Soft recovery characteristics
- Material categorization:  
For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



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

### APPLICATIONS

- Fast rectification an switching diode for example for TV-line output circuits and switch mode power supply

### MECHANICAL DATA

**Case:** SOD-57

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

**Polarity:** color band denotes cathode end

**Mounting position:** any

**Weight:** approx. 369 mg

### ORDERING INFORMATION (Example)

| DEVICE NAME | ORDERING CODE | TAPED UNITS                | MINIMUM ORDER QUANTITY |
|-------------|---------------|----------------------------|------------------------|
| BYW36       | BYW36-TR      | 5000 per 10" tape and reel | 25 000                 |
| BYW36       | BYW36-TAP     | 5000 per ammpack           | 25 000                 |

### PARTS TABLE

| PART  | TYPE DIFFERENTIATION                            | PACKAGE |
|-------|-------------------------------------------------|---------|
| BYW32 | $V_R = 200\text{ V}$ ; $I_{F(AV)} = 2\text{ A}$ | SOD-57  |
| BYW33 | $V_R = 300\text{ V}$ ; $I_{F(AV)} = 2\text{ A}$ | SOD-57  |
| BYW34 | $V_R = 400\text{ V}$ ; $I_{F(AV)} = 2\text{ A}$ | SOD-57  |
| BYW35 | $V_R = 500\text{ V}$ ; $I_{F(AV)} = 2\text{ A}$ | SOD-57  |
| BYW36 | $V_R = 600\text{ V}$ ; $I_{F(AV)} = 2\text{ A}$ | SOD-57  |

### 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        | BYW32 | $V_R = V_{RRM}$ | 200           | V                  |
|                                                   |                                       | BYW33 | $V_R = V_{RRM}$ | 300           | V                  |
|                                                   |                                       | BYW34 | $V_R = V_{RRM}$ | 400           | V                  |
|                                                   |                                       | BYW35 | $V_R = V_{RRM}$ | 500           | V                  |
|                                                   |                                       | BYW36 | $V_R = V_{RRM}$ | 600           | V                  |
| Peak forward surge current                        | $t_p = 10\text{ ms}$ , half sine wave |       | $I_{FSM}$       | 50            | A                  |
| Repetitive peak forward current                   |                                       |       | $I_{FRM}$       | 12            | A                  |
| Average forward current                           | $\varphi = 180^{\circ}$               |       | $I_{F(AV)}$     | 2             | A                  |
| Non repetitive reverse avalanche energy           | $I_{(BR)R} = 0.4\text{ A}$            |       | $E_R$           | 10            | mJ                 |
| Junction and storage temperature range            |                                       |       | $T_J = T_{stg}$ | - 55 to + 175 | $^{\circ}\text{C}$ |

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

| PARAMETER        | TEST CONDITION                                           | SYMBOL     | VALUE | UNIT |
|------------------|----------------------------------------------------------|------------|-------|------|
| Junction ambient | Lead length $l = 10\text{ mm}$ , $T_L = \text{constant}$ | $R_{thJA}$ | 45    | K/W  |
|                  | On PC board with spacing 25 mm                           | $R_{thJA}$ | 100   | K/W  |

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

| PARAMETER             | TEST CONDITION                                                    | PART | SYMBOL   | MIN. | TYP. | MAX. | UNIT          |
|-----------------------|-------------------------------------------------------------------|------|----------|------|------|------|---------------|
| Forward voltage       | $I_F = 1\text{ A}$                                                |      | $V_F$    | -    | 0.95 | 1.1  | V             |
| Reverse current       | $V_R = V_{RRM}$                                                   |      | $I_R$    | -    | 1    | 5    | $\mu\text{A}$ |
|                       | $V_R = V_{RRM}$ , $T_J = 150^{\circ}\text{C}$                     |      | $I_R$    | -    | 60   | 150  | $\mu\text{A}$ |
| Reverse recovery time | $I_F = 0.5\text{ A}$ , $I_R = 1\text{ A}$ , $i_R = 0.25\text{ A}$ |      | $t_{rr}$ | -    | -    | 200  | ns            |

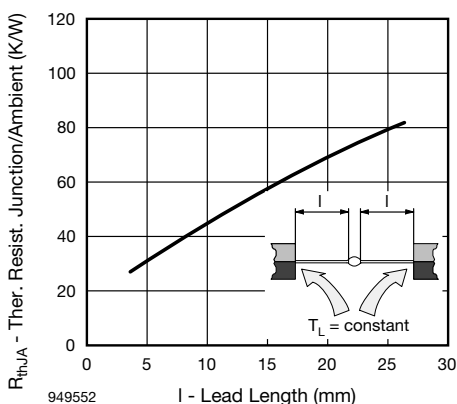
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25^{\circ}\text{C}$ , unless otherwise specified)


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

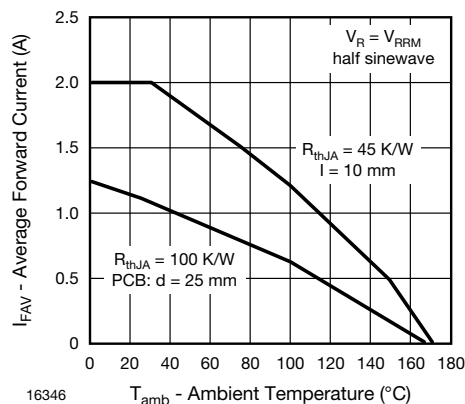


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

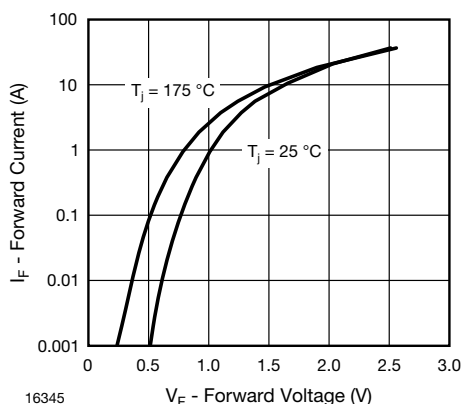
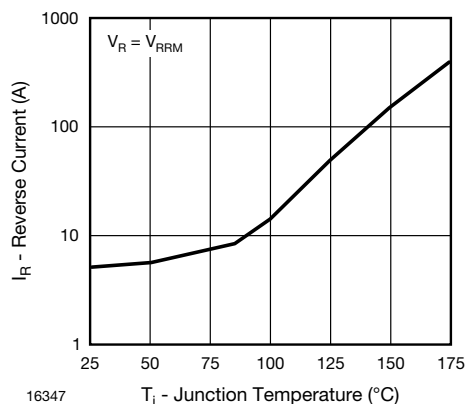


Fig. 2 - Forward Current vs. Forward Voltage


Fig. 4 - Reverse Current vs. Junction Temperature ( $^{\circ}\text{C}$ )

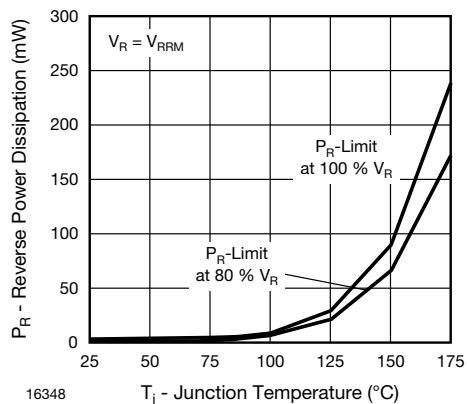


Fig. 5 - Max. Reverse Power Dissipation vs. Junction Temperature

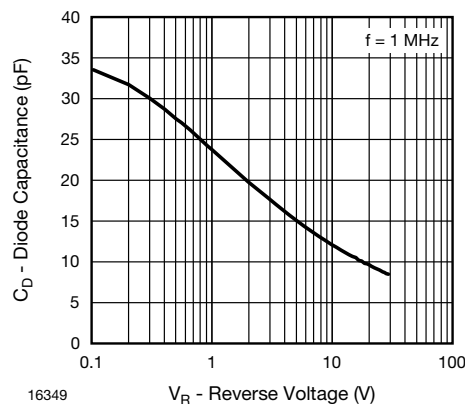


Fig. 6 - Diode Capacitance vs. Reverse Voltage

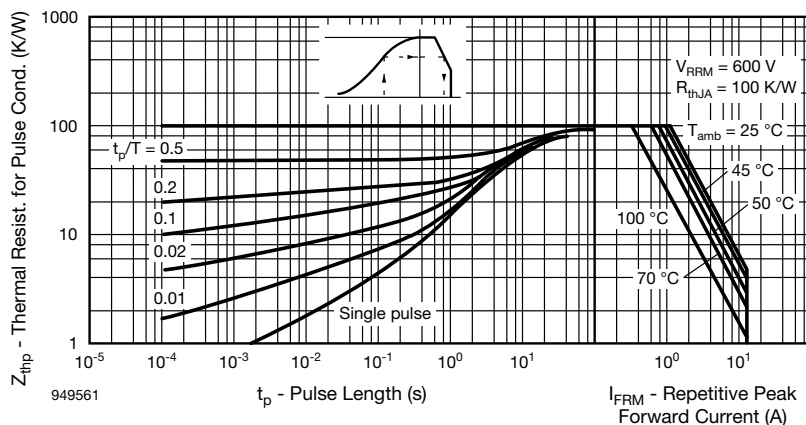
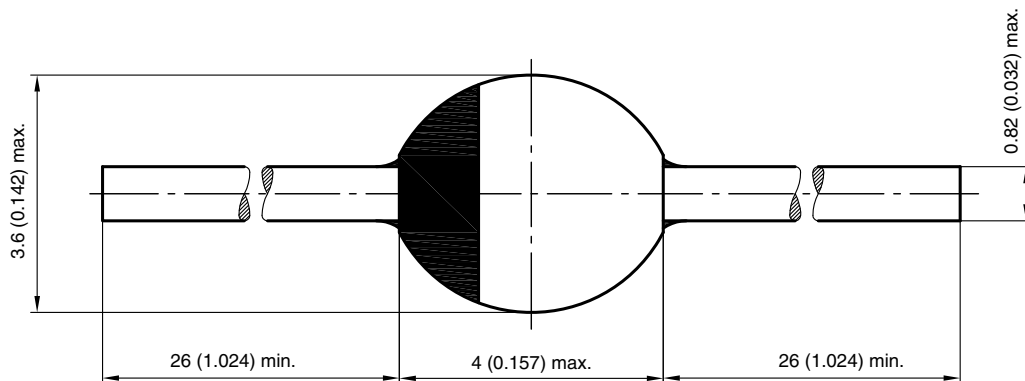


Fig. 7 - Thermal Response

**PACKAGE DIMENSIONS** in millimeters (inches): **SOD-57**


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