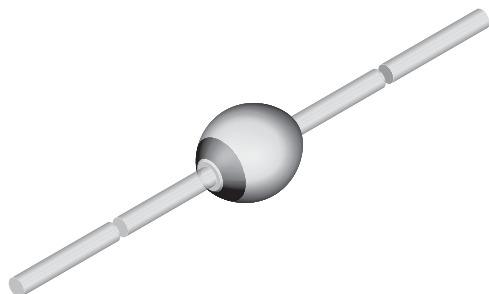




## Standard Avalanche Sinterglass Diode



949539

## DESIGN SUPPORT TOOLS

[click logo to get started](#)

## 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

## FEATURES

- Glass passivated junction
- Hermetically sealed axial-leaded glass envelope
- Controlled avalanche characteristics
- Low reverse current
- High surge current loading
- Material categorization:  
for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


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

## APPLICATIONS

- Rectification diode, general purpose

## ORDERING INFORMATION (Example)

| DEVICE NAME | ORDERING CODE | TAPED UNITS                | MINIMUM ORDER QUANTITY |
|-------------|---------------|----------------------------|------------------------|
| 1N5062      | 1N5062TR      | 5000 per 10" tape and reel | 25 000                 |
| 1N5062      | 1N5062TAP     | 5000 per ammpack           | 25 000                 |

## PARTS TABLE

| PART   | TYPE DIFFERENTIATION                            | PACKAGE |
|--------|-------------------------------------------------|---------|
| 1N5059 | $V_R = 200\text{ V}$ ; $I_{F(AV)} = 2\text{ A}$ | SOD-57  |
| 1N5060 | $V_R = 400\text{ V}$ ; $I_{F(AV)} = 2\text{ A}$ | SOD-57  |
| 1N5061 | $V_R = 600\text{ V}$ ; $I_{F(AV)} = 2\text{ A}$ | SOD-57  |
| 1N5062 | $V_R = 800\text{ V}$ ; $I_{F(AV)} = 2\text{ A}$ | 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                                       | 1N5059 | $V_R = V_{RRM}$ | 200         | V                  |
|                                                                            |                                                                      | 1N5060 | $V_R = V_{RRM}$ | 400         | V                  |
|                                                                            |                                                                      | 1N5061 | $V_R = V_{RRM}$ | 600         | V                  |
|                                                                            |                                                                      | 1N5062 | $V_R = V_{RRM}$ | 800         | V                  |
| Peak forward surge current                                                 | $t_p = 10\text{ ms}$ , half sine wave                                |        | $I_{FSM}$       | 50          | A                  |
| Average forward current                                                    | $T_{thJA} = 45\text{ K/W}$ , $T_{amb} = 50\text{ }^{\circ}\text{C}$  |        | $I_{F(AV)}$     | 2           | A                  |
|                                                                            | $T_{thJA} = 100\text{ K/W}$ , $T_{amb} = 75\text{ }^{\circ}\text{C}$ |        | $I_{F(AV)}$     | 0.8         | A                  |
| Pulse energy in avalanche mode, non repetitive (inductive load switch off) | $I_{(BR)R} = 1\text{ A}$ , inductive load                            |        | $E_R$           | 20          | mJ                 |
| Junction and storage temperature range                                     |                                                                      |        | $T_J = T_{stg}$ | -55 to +175 | $^{\circ}\text{C}$ |

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

| PARAMETER        | TEST CONDITION                                           | SYMBOL     | VALUE | UNIT |
|------------------|----------------------------------------------------------|------------|-------|------|
| Junction ambient | Lead length $l = 10\text{ mm}$ , $T_L = \text{constant}$ | $R_{thJA}$ | 45    | K/W  |
|                  | On PC board with spacing 25 mm                           | $R_{thJA}$ | 100   | 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       | $I_F = 1\text{ A}$                                                |        | $V_F$       | -    | -    | 1    | V             |
|                       | $I_F = 2.5\text{ A}$                                              |        | $V_F$       | -    | -    | 1.15 | V             |
| Reverse current       | $V_R = V_{RRM}$                                                   |        | $I_R$       | -    | -    | 1    | $\mu\text{A}$ |
|                       | $V_R = V_{RRM}$ , $T_j = 100\text{ }^{\circ}\text{C}$             |        | $I_R$       | -    | -    | 10   | $\mu\text{A}$ |
|                       | $V_R = V_{RRM}$ , $T_j = 150\text{ }^{\circ}\text{C}$             |        | $I_R$       | -    | -    | 100  | $\mu\text{A}$ |
| Breakdown voltage     | $I_R = 100\text{ }\mu\text{A}$                                    | 1N5059 | $V_{(BR)R}$ | 225  | -    | 1600 | V             |
|                       |                                                                   | 1N5060 | $V_{(BR)R}$ | 450  | -    | 1600 | V             |
|                       |                                                                   | 1N5061 | $V_{(BR)R}$ | 650  | -    | 1600 | V             |
|                       |                                                                   | 1N5062 | $V_{(BR)R}$ | 900  | -    | 1600 | V             |
| Diode capacitance     | $V_R = 0\text{ V}$ , $f = 1\text{ MHz}$                           |        | $C_D$       | -    | 40   | -    | pF            |
| Reverse recovery time | $I_F = 0.5\text{ A}$ , $I_R = 1\text{ A}$ , $i_R = 0.25\text{ A}$ |        | $t_{rr}$    | -    | -    | 4    | $\mu\text{s}$ |

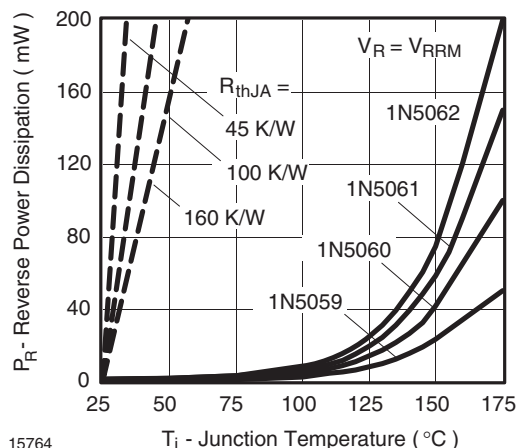
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

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

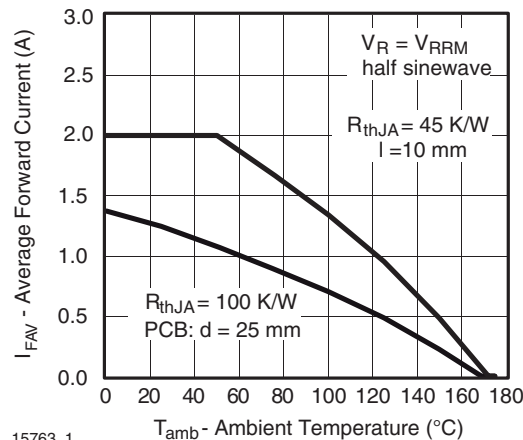


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

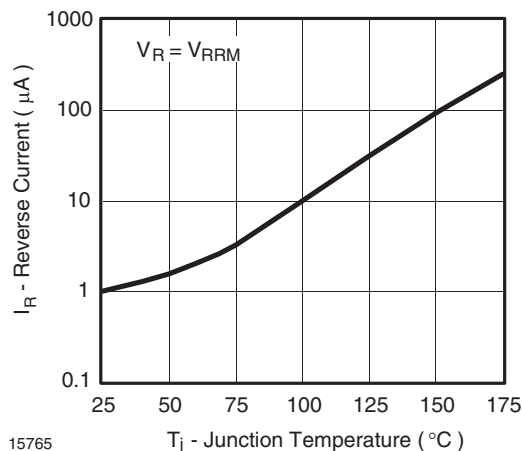


Fig. 2 - Max. Reverse Current vs. Junction Temperature

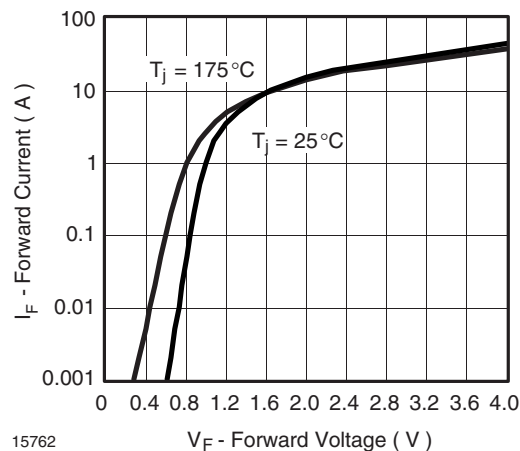


Fig. 4 - Max. Forward Current vs. Forward Voltage

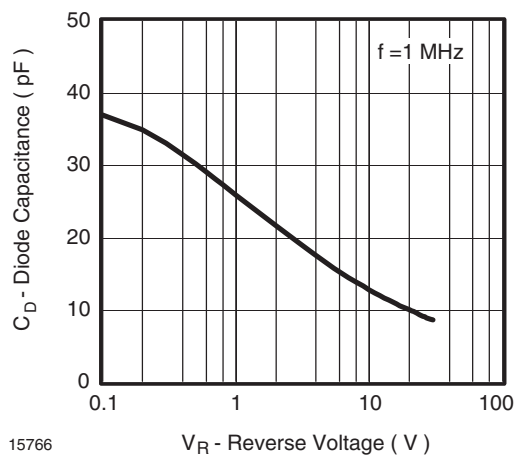
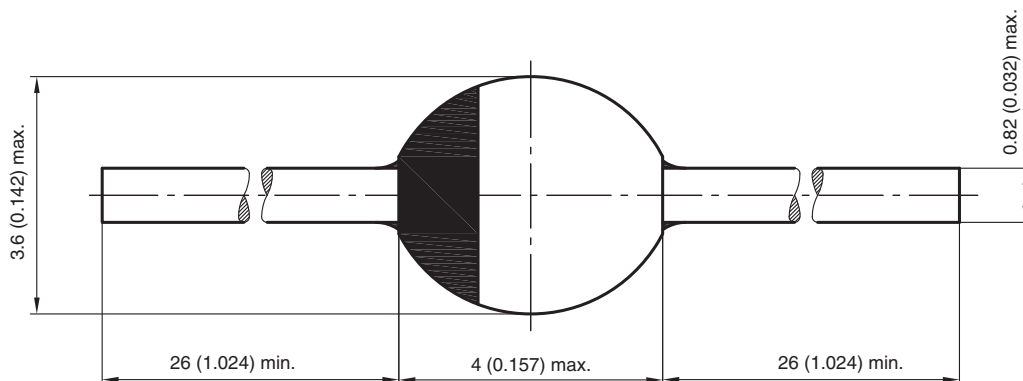


Fig. 5 - Diode Capacitance vs. Reverse Voltage

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



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