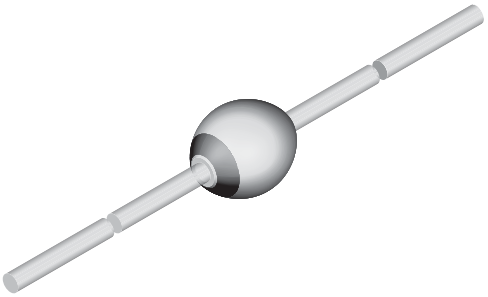
## Standard Avalanche Sinterglass Diode



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### 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

RoHS COMPLIANT
HALOGEN FREE

### DESIGN SUPPORT TOOLS

click logo to get started

3D Models Available

### APPLICATIONS

- Rectification diode, general purpose

### 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** |
| 1N5062 | 1N5062TR | 5000 per 10" tape and reel | 25 000 |
| 1N5062 | 1N5062TAP | 5000 per ammopack | 25 000 |

| **PARTS TABLE** | | |
|---|---|---|
| **PART** | **TYPE DIFFERENTIATION** | **PACKAGE** |
| 1N5059 | $V_R$ = 200 V; $I_{F(AV)}$ = 2 A | SOD-57 |
| 1N5060 | $V_R$ = 400 V; $I_{F(AV)}$ = 2 A | SOD-57 |
| 1N5061 | $V_R$ = 600 V; $I_{F(AV)}$ = 2 A | SOD-57 |
| 1N5062 | $V_R$ = 800 V; $I_{F(AV)}$ = 2 A | SOD-57 |

| **ABSOLUTE MAXIMUM RATINGS** ($T_{amb}$ = 25 °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 ms, half sine wave | | $I_{FSM}$ | 50 | A |
| Average forward current | $T_{thJA}$ = 45 K/W, $T_{amb}$ = 50 °C | | $I_{F(AV)}$ | 2 | A |
| | $T_{thJA}$ = 100 K/W, $T_{amb}$ = 75 °C | | $I_{F(AV)}$ | 0.8 | A |
| Pulse energy in avalanche mode, non repetitive (inductive load switch off) | $I_{(BR)R}$ = 1 A, inductive load | | $E_R$ | 20 | mJ |
| Junction and storage temperature range | | | $T_j = T_{stg}$ | -55 to +175 | °C |



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| MAXIMUM THERMAL RESISTANCE ($T_{amb}$ = 25 °C, unless otherwise specified) | | | | |
|---|---|---|---|---|
| **PARAMETER** | **TEST CONDITION** | **SYMBOL** | **VALUE** | **UNIT** |
| Junction ambient | Lead length l = 10 mm, $T_L$ = constant | $R_{thJA}$ | 45 | K/W |
| | On PC board with spacing 25 mm | $R_{thJA}$ | 100 | K/W |

| ELECTRICAL CHARACTERISTICS ($T_{amb}$ = 25 °C, unless otherwise specified) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **PARAMETER** | **TEST CONDITION** | **PART** | **SYMBOL** | **MIN.** | **TYP.** | **MAX** | **UNIT** |
| Forward voltage | $I_F$ = 1 A | | $V_F$ | - | - | 1 | V |
| | $I_F$ = 2.5 A | | $V_F$ | - | - | 1.15 | V |
| Reverse current | $V_R = V_{RRM}$ | | $I_R$ | - | - | 1 | µA |
| | $V_R = V_{RRM}$, $T_j$ = 100 °C | | $I_R$ | - | - | 10 | µA |
| | $V_R = V_{RRM}$, $T_j$ = 150 °C | | $I_R$ | - | - | 100 | µA |
| Breakdown voltage | $I_R$ = 100 µA | 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 V, f = 1 MHz | | $C_D$ | - | 40 | - | pF |
| Reverse recovery time | $I_F$ = 0.5 A, $I_R$ = 1 A, $i_R$ = 0.25 A | | $t_{rr}$ | - | - | 4 | µs |

## TYPICAL CHARACTERISTICS ($T_{amb}$ = 25 °C, unless otherwise specified)

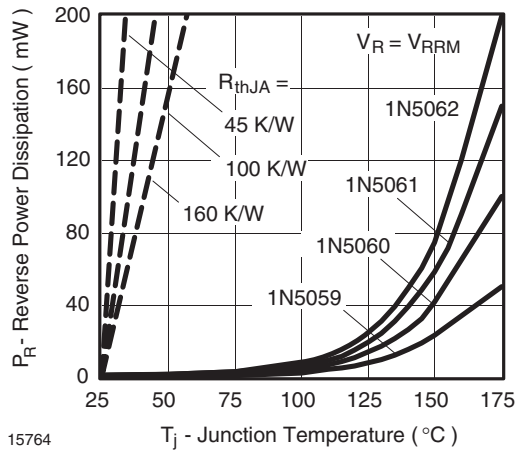


Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

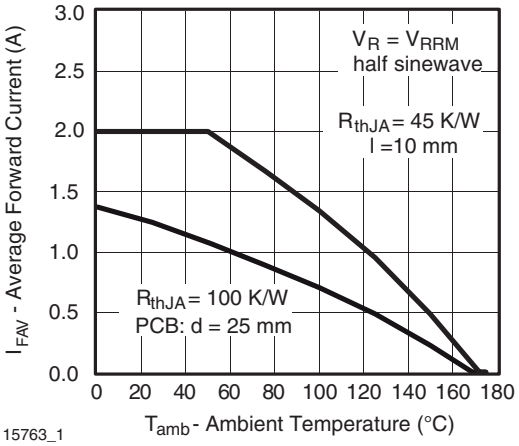


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

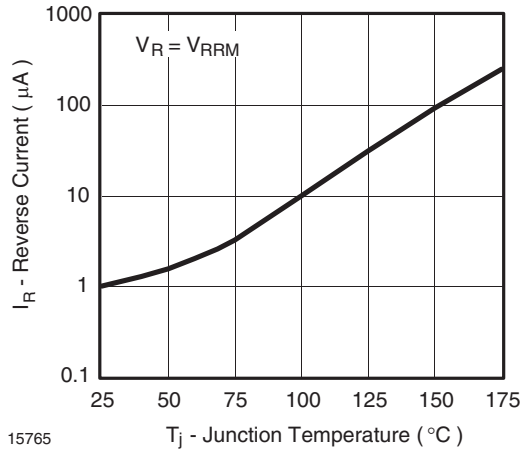


Fig. 2 - Max. Reverse Current vs. Junction Temperature

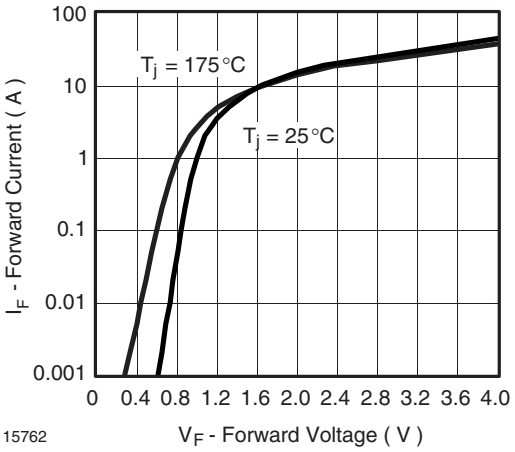


Fig. 4 - Max. Forward Current vs. Forward Voltage


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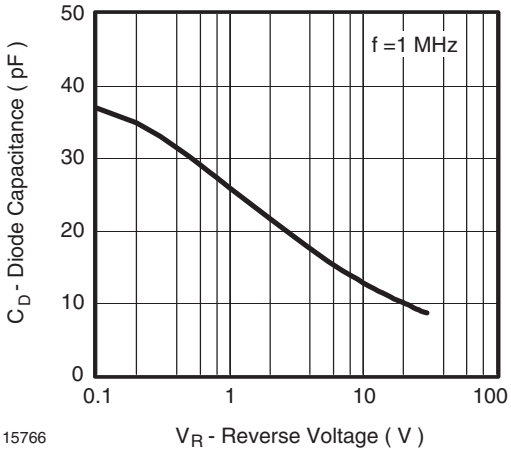
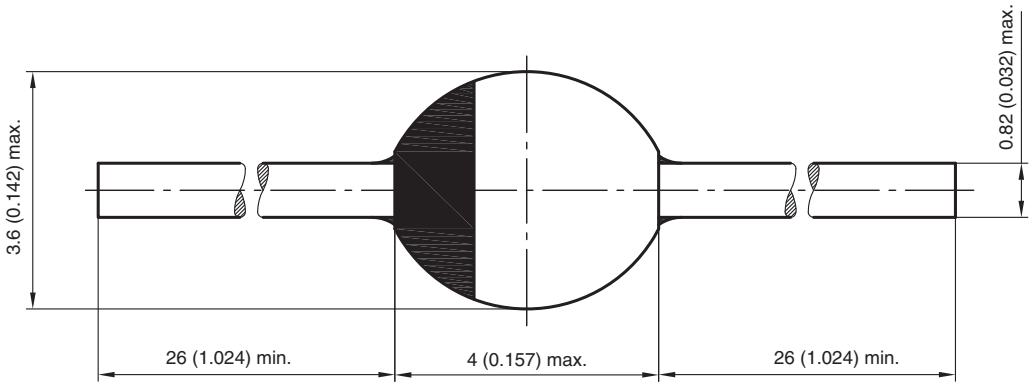



Fig. 5 - Diode Capacitance vs. Reverse Voltage

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

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