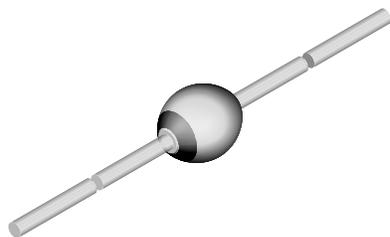


Standard Avalanche Sinterglass Diode



949539

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
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



RoHS
COMPLIANT
HALOGEN
FREE

APPLICATIONS

- Rectification diode, general purpose

| PARTS TABLE | | |
|-------------|--|---------|
| PART | TYPE DIFFERENTIATION | PACKAGE |
| 1N5059 | $V_R = 200\text{ V}; I_{FAV} = 2\text{ A}$ | SOD-57 |
| 1N5060 | $V_R = 400\text{ V}; I_{FAV} = 2\text{ A}$ | SOD-57 |
| 1N5061 | $V_R = 600\text{ V}; I_{FAV} = 2\text{ A}$ | SOD-57 |
| 1N5062 | $V_R = 800\text{ V}; I_{FAV} = 2\text{ A}$ | 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_{FAV} | 2 | A |
| | $T_{thJA} = 100\text{ K/W}$, $T_{amb} = 75\text{ }^\circ\text{C}$ | | I_{FAV} | 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 |



1N5059, 1N5060, 1N5061, 1N5062

Standard Avalanche Sinterglass Diode Vishay Semiconductors

| 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 | μA |
| | $V_R = V_{RRM}, T_j = 100\text{ }^{\circ}\text{C}$ | | I_R | - | - | 10 | μA |
| | $V_R = V_{RRM}, T_j = 150\text{ }^{\circ}\text{C}$ | | I_R | - | - | 100 | μA |
| 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 | μs |

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

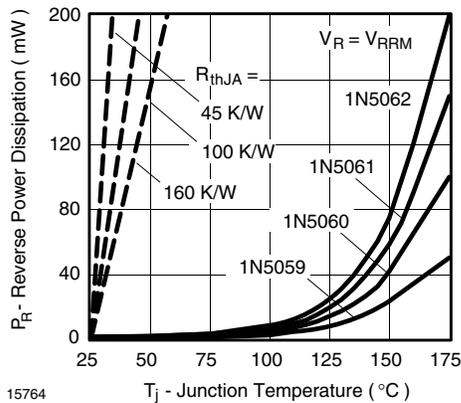


Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

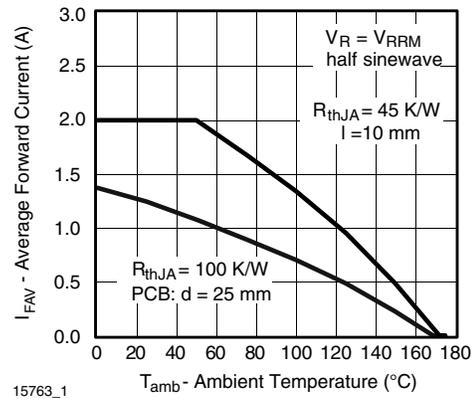


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

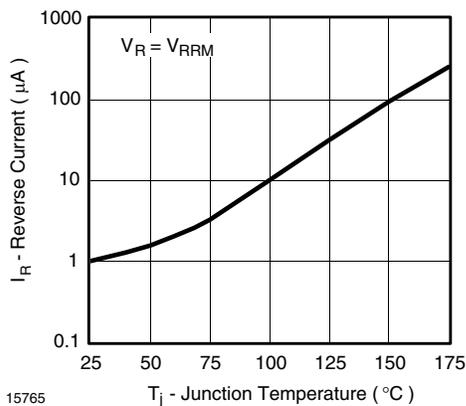


Fig. 2 - Max. Reverse Current vs. Junction Temperature

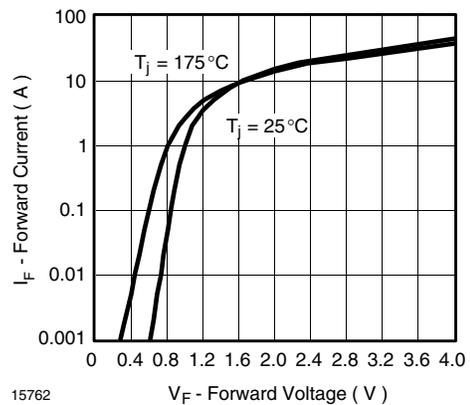


Fig. 4 - Max. Forward Current vs. Forward Voltage

1N5059, 1N5060, 1N5061, 1N5062



Vishay Semiconductors Standard Avalanche Sinterglass Diode

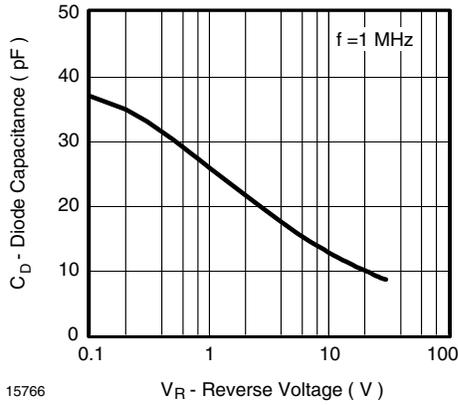
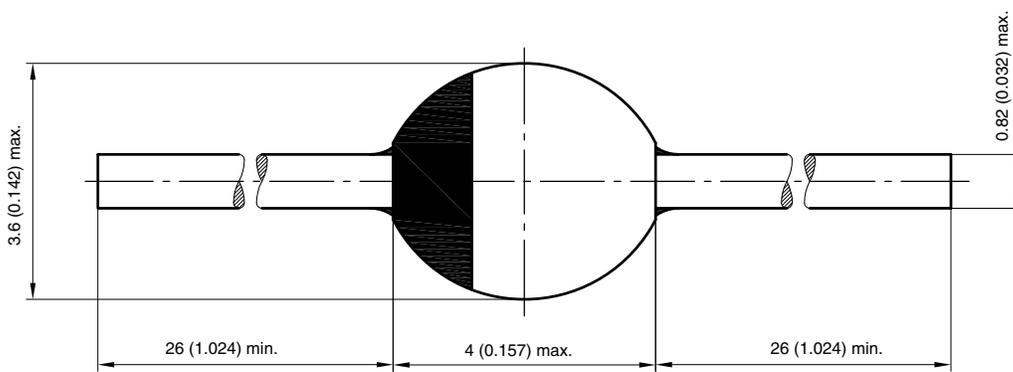


Fig. 5 - Diode Capacitance vs. Reverse Voltage

PACKAGE DIMENSIONS in millimeters (inches): SOD-57



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