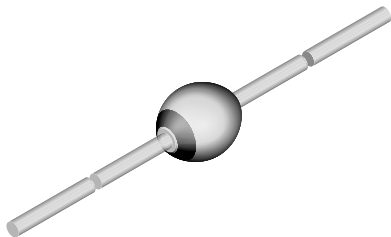


## Standard Avalanche Sinterglass Diode



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	$\mu\text{A}$
	$V_R = V_{RRM}, T_j = 100\text{ }^{\circ}\text{C}$		$I_R$	-	-	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)

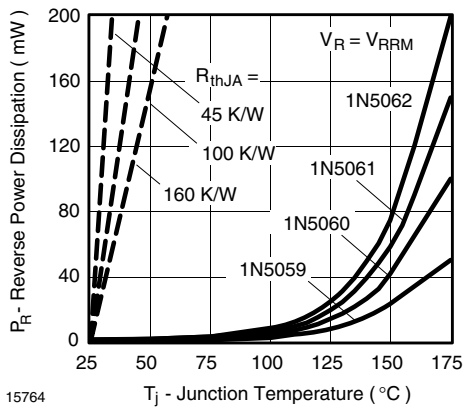


Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

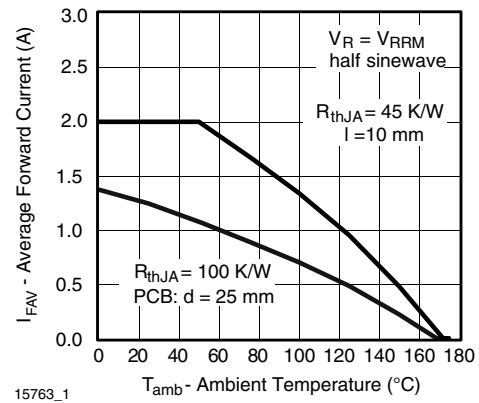


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

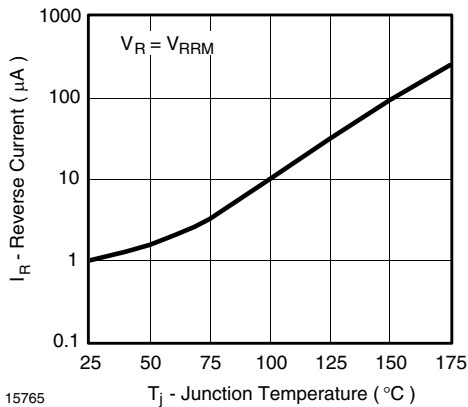


Fig. 2 - Max. Reverse Current vs. Junction Temperature

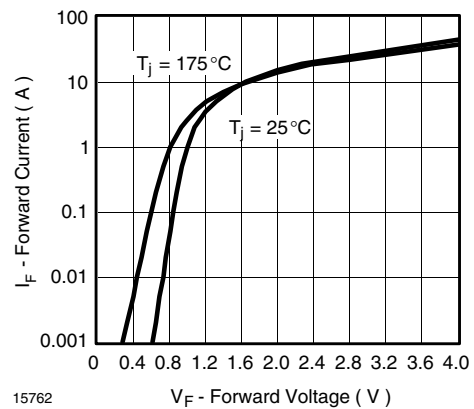


Fig. 4 - Max. Forward Current vs. Forward Voltage

# 1N5059, 1N5060, 1N5061, 1N5062



Vishay Semiconductors Standard Avalanche Sinterglass Diode

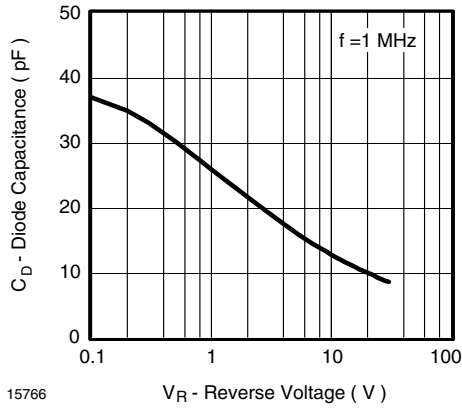
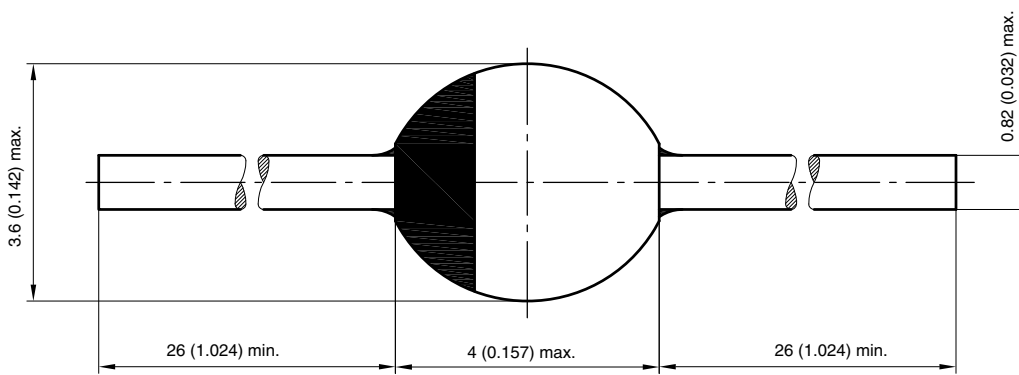


Fig. 5 - Diode Capacitance vs. Reverse Voltage

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



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