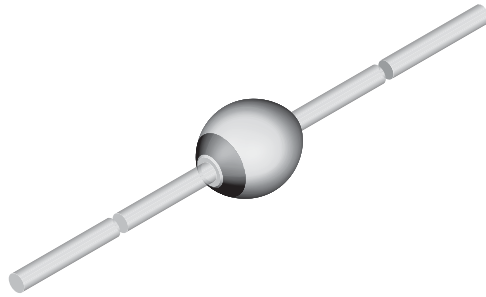




# Standard Avalanche Sinterglass Diode



949539

### DESIGN SUPPORT TOOLS

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### 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 package
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



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

### APPLICATIONS

- High voltage rectification
- Efficiency diode in horizontal deflection circuits

ORDERING INFORMATION (Example)			
DEVICE NAME	ORDERING CODE	TAPED UNITS	MINIMUM ORDER QUANTITY
BY458	BY458TR	5000 per 10" tape and reel	25 000
BY458	BY458TAP	5000 per ammpack	25 000

PARTS TABLE		
PART	TYPE DIFFERENTIATION	PACKAGE
BY448	$V_R = 1500\text{ V}$ , $I_{FAV} = 2\text{ A}$	SOD-57
BY458	$V_R = 1200\text{ V}$ , $I_{FAV} = 2\text{ A}$	SOD-57

ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25\text{ }^\circ\text{C}$ , unless otherwise specified)					
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Reverse voltage	See electrical characteristics	BY448	$V_R = V_{RRM}$	1500	V
		BY458	$V_R = V_{RRM}$	1200	V
Peak forward surge current	$t_p = 10\text{ ms}$ , half sine wave		$I_{FSM}$	30	A
Average forward current			$I_{FAV}$	2	A
Junction temperature			$T_j$	140	$^\circ\text{C}$
Storage temperature range			$T_{stg}$	-55 to +175	$^\circ\text{C}$
Non repetitive reverse avalanche energy	$I_{(BR)R} = 0.4\text{ A}$		$E_R$	10	mJ

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

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX	UNIT
Forward voltage	$I_F = 3\text{ A}$	$V_F$	-	-	1.6	V
Reverse current	$V_R = V_{RRM}$	$I_R$	-	-	3	$\mu\text{A}$
	$V_R = V_{RRM}, T_j = 140\text{ }^{\circ}\text{C}$	$I_R$	-	-	140	$\mu\text{A}$
Reverse recovery time	$I_F = 0.5\text{ A}, I_R = 1\text{ A}, i_R = 0.25\text{ A}$	$t_{rr}$	-	-	2	$\mu\text{s}$
Total reverse recovery time	$I_F = 1\text{ A}, -di_F/dt = 0.05\text{ A}/\mu\text{s}$	$t_{rr}$	-	-	20	$\mu\text{s}$

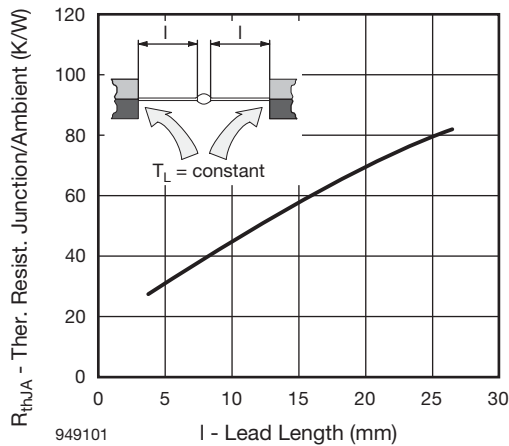
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


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

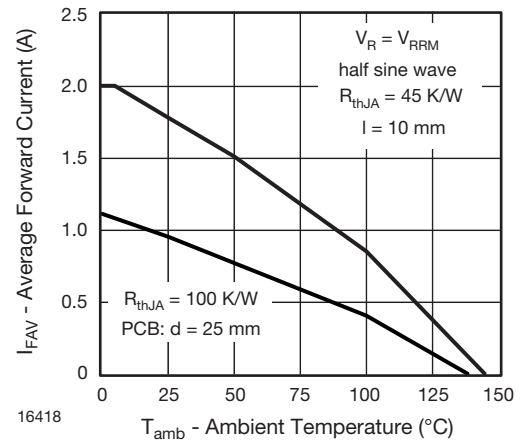


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

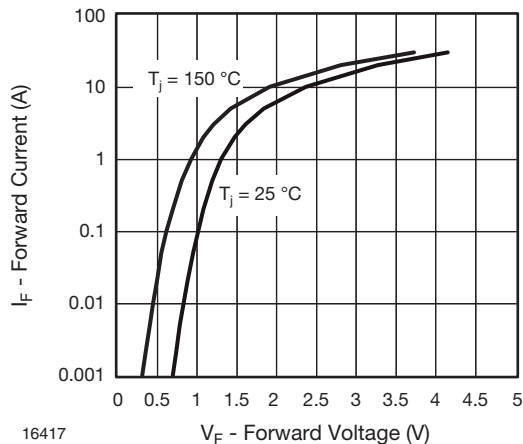


Fig. 2 - Forward Current vs. Forward Voltage

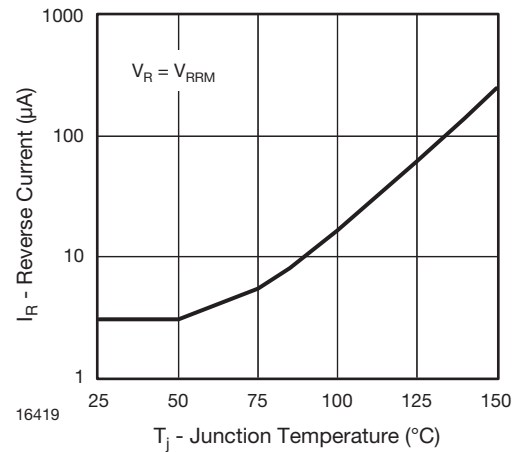


Fig. 4 - Reverse Current vs. Junction Temperature

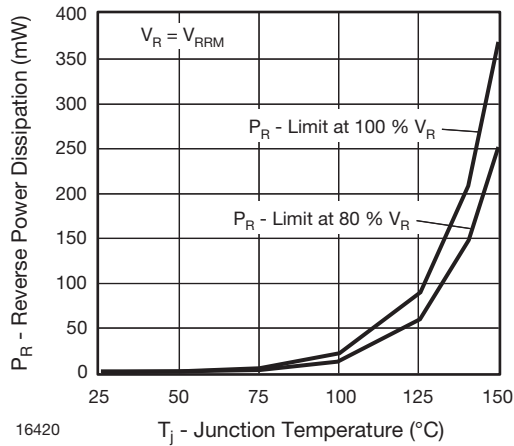


Fig. 5 - Max. Reverse Power Dissipation vs. Junction Temperature

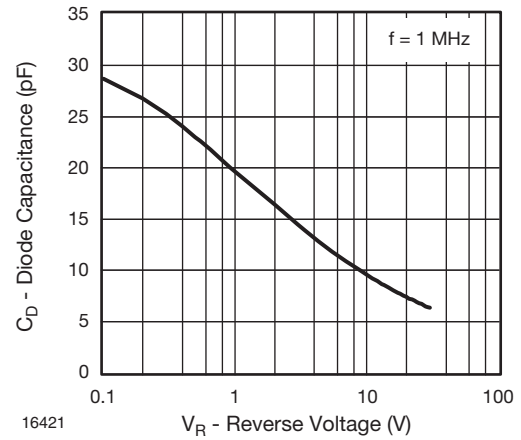
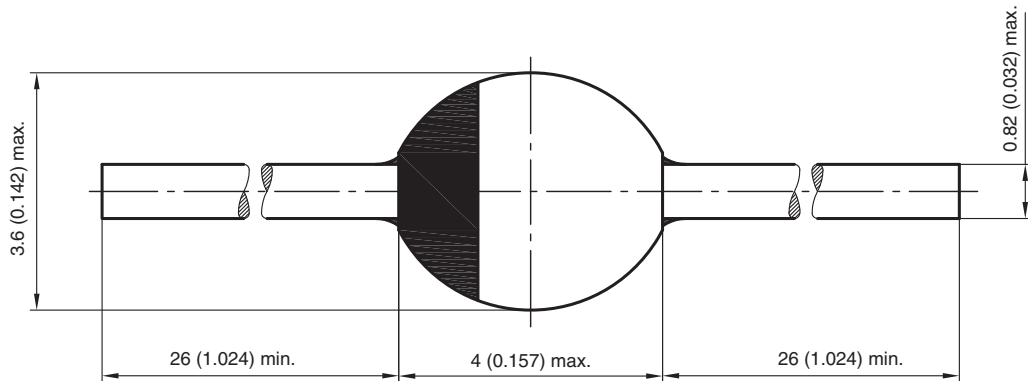


Fig. 6 - Diode Capacitance vs. Reverse Voltage

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



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