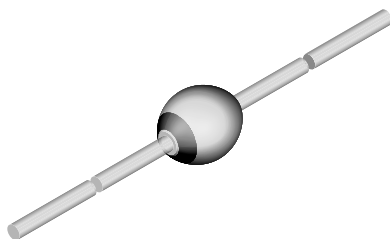


## Standard Avalanche Sinterglass Diode



949539

### 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

### 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
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

**ELECTRICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , 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	$I_F = 0.5\text{ A}, I_R = 1\text{ A}, i_R = 0.25\text{ A}$	$t_{rr}$	-	-	2000	ns
Total reverse recovery time	$I_F = 1\text{ A}, -di_F/dt = 0.05\text{ A}/\mu\text{s}$	$t_{rr}$	-	-	20	$\mu\text{s}$

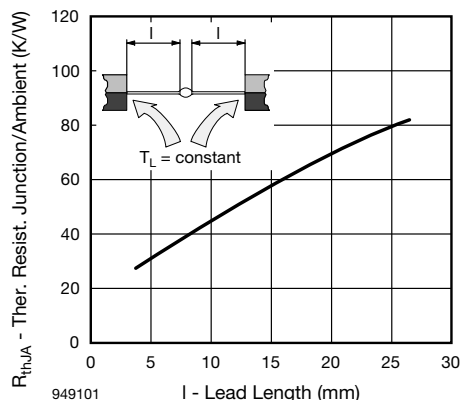
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


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

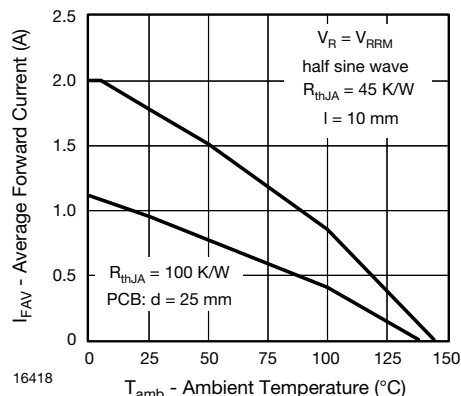


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

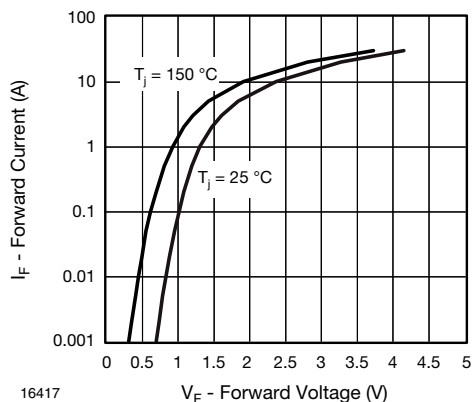


Fig. 2 - Forward Current vs. Forward Voltage

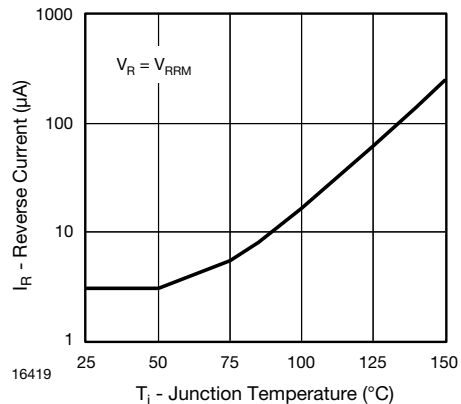


Fig. 4 - Reverse Current vs. Junction Temperature

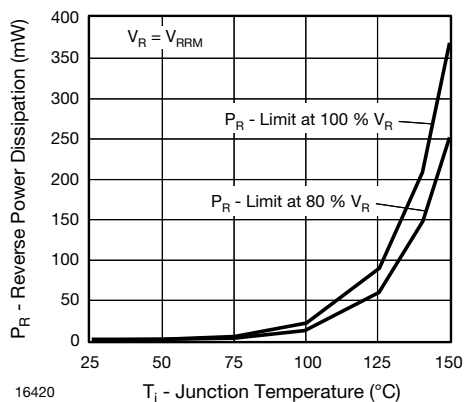


Fig. 5 - Max. Reverse Power Dissipation vs. Junction Temperature

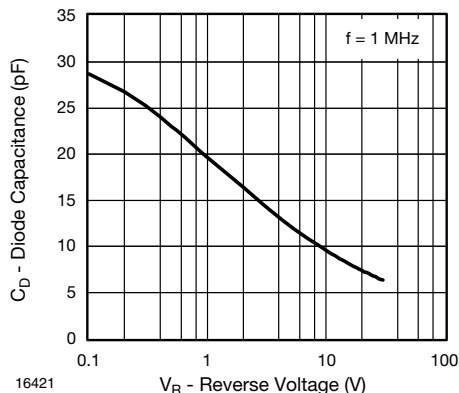
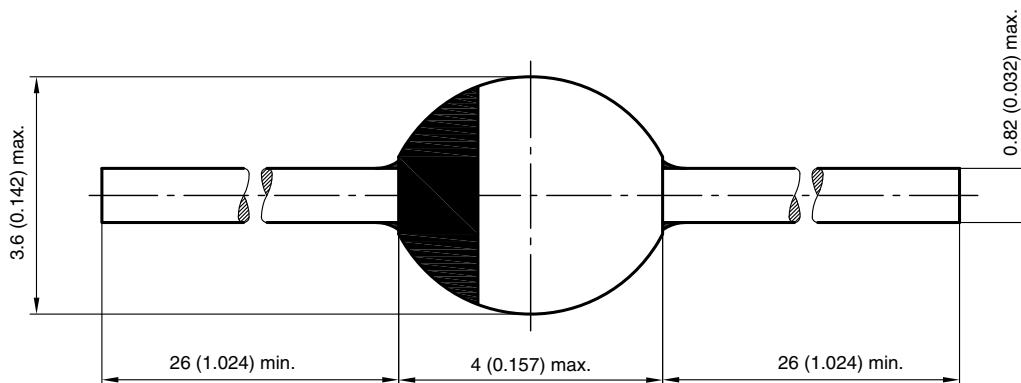


Fig. 6 - Diode Capacitance vs. Reverse Voltage

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



20543  
Rev. 3 - Date: 09.February 2005  
Document no.: 6.563-5006.3-4



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