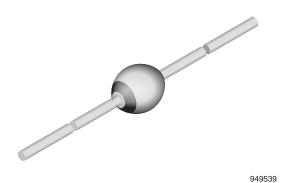


### Vishay Semiconductors

## **Standard Avalanche Sinterglass Diode**



#### **FEATURES**

- · Glass passivated junction
- · Hermetically sealed package
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

# Pho

RoHS

COMPLIANT HALOGEN FREE

#### **APPLICATIONS**

- High voltage rectification
- Efficiency diode in horizontal deflection circuits

# DESIGN SUPPORT TOOLS





#### **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 ammopack	25 000		

PARTS TABLE					
PART	TYPE DIFFERENTIATION	PACKAGE			
BY448	V <sub>R</sub> = 1500 V, I <sub>FAV</sub> = 2 A	SOD-57			
BY458	V <sub>R</sub> = 1200 V, I <sub>FAV</sub> = 2 A	SOD-57			

ABSOLUTE MAXIMUM RATINGS (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT	
Reverse voltage	See electrical characteristics	BY448	$V_R = V_{RRM}$	1500	V	
neverse voltage		BY458	$V_R = V_{RRM}$	1200	V	
Peak forward surge current	t <sub>p</sub> = 10 ms, half sine wave		I <sub>FSM</sub>	30	Α	
Average forward current			I <sub>FAV</sub>	2	Α	
Junction temperature			Tj	140	°C	
Storage temperature range			T <sub>stg</sub>	-55 to +175	°C	
Non repetitive reverse avalanche energy	$I_{(BR)R} = 0.4 A$		E <sub>R</sub>	10	mJ	

MAXIMUM THERMAL RESISTANCE (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Junction ambient	$I = 10$ mm, $T_L = constant$	R <sub>thJA</sub>	45	K/W	
Junction ambient	On PC board with spacing 25 mm	R <sub>thJA</sub>	100	K/W	



### Vishay Semiconductors

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

### TYPICAL CHARACTERISTICS (T<sub>amb</sub> = 25 °C, unless otherwise specified)

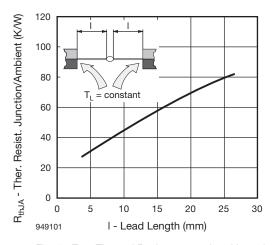


Fig. 1 - Typ. Thermal Resistance vs. Lead Length

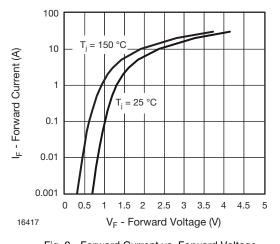


Fig. 2 - Forward Current vs. Forward Voltage

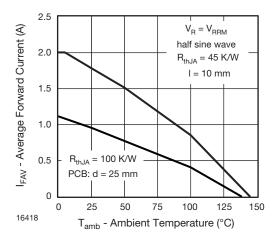


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

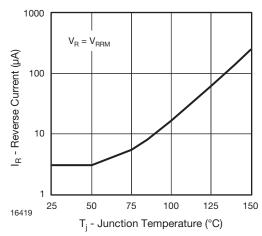


Fig. 4 - Reverse Current vs. Junction Temperature



# www.vishay.com Vishay Semiconductors

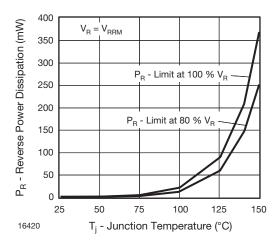


Fig. 5 - Max. Reverse Power Dissipation vs. Junction Temperature

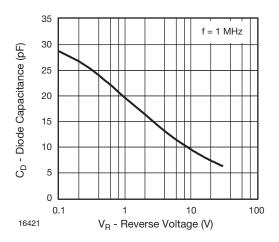
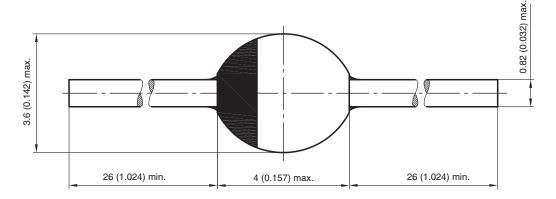


Fig. 6 - Diode Capacitance vs. Reverse Voltage

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



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