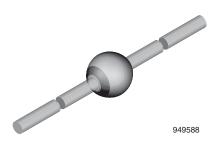


## Vishay Semiconductors

# **Fast Avalanche Sinterglass Diode**



#### **FEATURES**

- · Glass passivated junction
- · Hermetically sealed package
- · Low reverse current
- · Soft recovery characteristics
- Low forward voltage drop
- · High pulse current capability
- Material categorization:
   For definitions of compliance please see www.vishay.com/doc?99912





FREE

#### **MECHANICAL DATA**

Case: SOD-64

Terminals: plated axial leads, solderable per MIL-STD-750,

method 2026

Polarity: color band denotes cathode end

Mounting position: any Weight: approx. 858 mg

# APPLICATIONS

· Fast rectification diode

ORDERING INFORMATION (Example)						
DEVICE NAME	ORDERING CODE	RING CODE TAPED UNITS MINIMUM ORDER QUANTITY				
1N5418	1N5418TR	2500 per 10" tape and reel	12 500			
1N5418	1N5418-TAP	2500 per ammopack	12 500			

PARTS TABLE					
PART	TYPE DIFFERENTIATION	PACKAGE			
1N5417	V <sub>R</sub> = 200 V; I <sub>F(AV)</sub> = 3 A	SOD-64			
1N5418	$V_R = 400 \text{ V}; I_{F(AV)} = 3 \text{ A}$	SOD-64			

<b>ABSOLUTE MAXIMUM RATINGS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT		
Reverse voltage = repetitive peak reverse	See electrical characteristics	1N5417	$V_R = V_{RRM}$	200	٧		
voltage	See electrical characteristics	1N5418	$V_R = V_{RRM}$	400	>		
Peak forward surge current	$t_p = 10$ ms, half sine wave		I <sub>FSM</sub>	100	Α		
Average forward current	I = 10 mm, T <sub>L</sub> = 25 °C		I <sub>F(AV)</sub>	3	Α		
Non repetitive reverse avalanche energy	$I_{(BR)R} = 1 A$		E <sub>R</sub>	20	mJ		
Junction and storage temperature range			$T_j = T_{stg}$	- 55 to + 175	°C		

<b>MAXIMUM THERMAL RESISTANCE</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT		
Junction ambient	Lead length I = 10 mm, T <sub>L</sub> = constant	$R_{thJA}$	25	K/W		
Junction ambient	On PC board with spacing 25 mm	$R_{thJA}$	70	K/W		



## Vishay Semiconductors

<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	I <sub>F</sub> = 3 A		$V_{F}$	-	-	1.1	V
	I <sub>F</sub> = 9 A		$V_{F}$	-	-	1.5	V
Reverse current	$V_R = V_{RRM}$		I <sub>R</sub>	-	-	1	μA
	$V_R = V_{RRM}, T_j = 100  ^{\circ}C$		I <sub>R</sub>	-	-	20	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>	-	75	100	ns

3.5

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

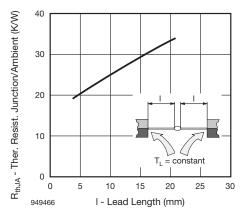


Fig. 1 - Max. Thermal Resistance vs. Lead Length

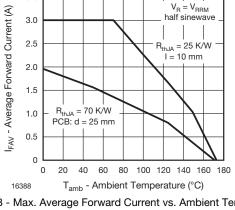


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

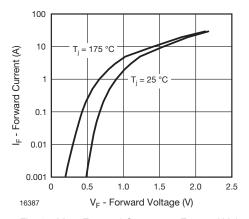


Fig. 2 - Max. Forward Current vs. Forward Voltage

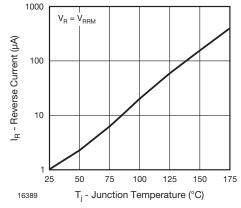
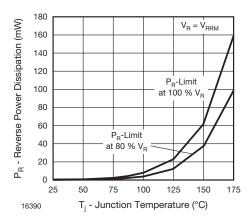


Fig. 4 - Max. Reverse Current vs. Junction Temperature

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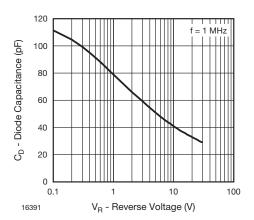


Fig. 6 - Diode Capacitance vs. Reverse Voltage

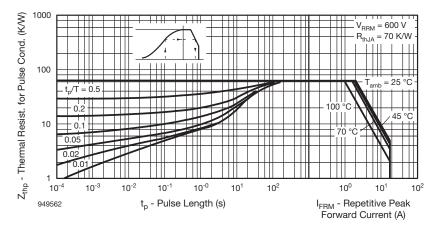
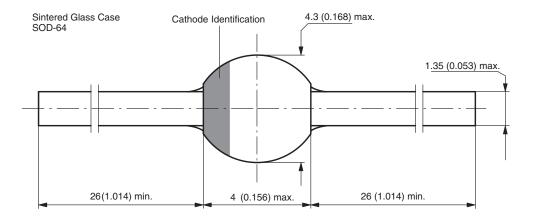


Fig. 7 - Thermal Response

#### PACKAGE DIMENSIONS in millimeters (inches): SOD-64



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