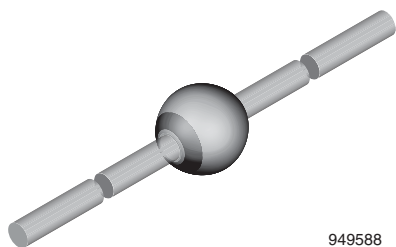




### Fast Avalanche Sinterglass Diode



949588

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**DESIGN SUPPORT TOOLS**



**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

**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](http://www.vishay.com/doc?99912)



**APPLICATIONS**

- Fast rectification diode in SMPS

ORDERING INFORMATION (Example)			
DEVICE NAME	ORDERING CODE	TAPED UNITS	MINIMUM ORDER QUANTITY
BYW172G	BYW172G-TR	2500 per 10" tape and reel	12 500
BYW172G	BYW172G-TAP	2500 per ammpack	12 500

PARTS TABLE		
PART	TYPE DIFFERENTIATION	PACKAGE
BYW172D	$V_R = 200\text{ V}$ ; $I_{F(AV)} = 3\text{ A}$	SOD-64
BYW172F	$V_R = 300\text{ V}$ ; $I_{F(AV)} = 3\text{ A}$	SOD-64
BYW172G	$V_R = 400\text{ V}$ ; $I_{F(AV)} = 3\text{ A}$	SOD-64

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	BYW172D	$V_R = V_{RRM}$	200	V
		BYW172F	$V_R = V_{RRM}$	300	V
		BYW172G	$V_R = V_{RRM}$	400	V
Peak forward surge current	$t_p = 10\text{ ms}$ , half sine wave		$I_{FSM}$	100	A
Average forward current			$I_{F(AV)}$	3	A
Non repetitive reverse avalanche energy	$I_{(BR)R} = 1\text{ A}$		$E_R$	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 $l = 10\text{ mm}$ , $T_L = \text{constant}$	$R_{thJA}$	25	K/W
	On PC board with spacing $25\text{ mm}$	$R_{thJA}$	70	K/W

ELECTRICAL CHARACTERISTICS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 3\text{ A}$		$V_F$	-	-	1.1	V
	$I_F = 9\text{ A}$		$V_F$	-	-	1.5	V
Reverse current	$V_R = V_{RRM}$		$I_R$	-	-	1	$\mu\text{A}$
	$V_R = V_{RRM}, T_j = 100\text{ }^{\circ}\text{C}$		$I_R$	-	-	20	$\mu\text{A}$
Reverse recovery time	$I_F = 0.5\text{ A}, I_R = 1\text{ A}, t_R = 0.25\text{ A}$		$t_{rr}$	-	75	100	ns

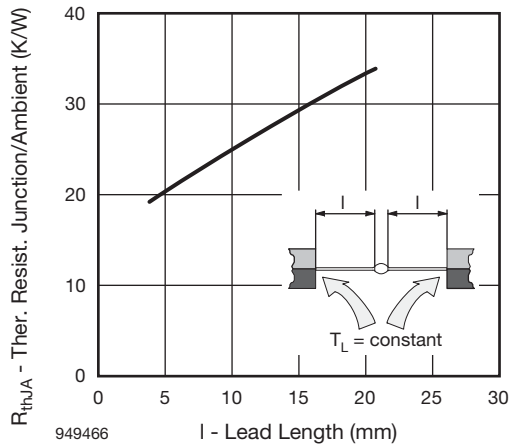
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


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

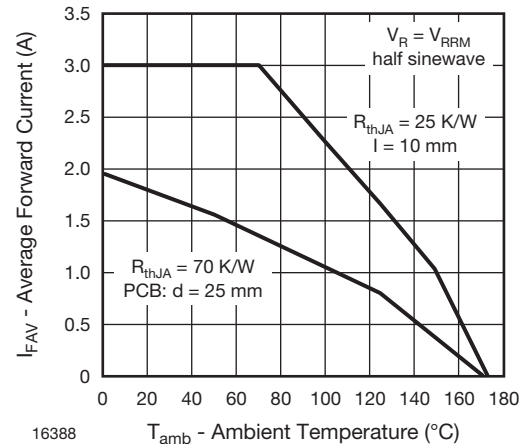


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

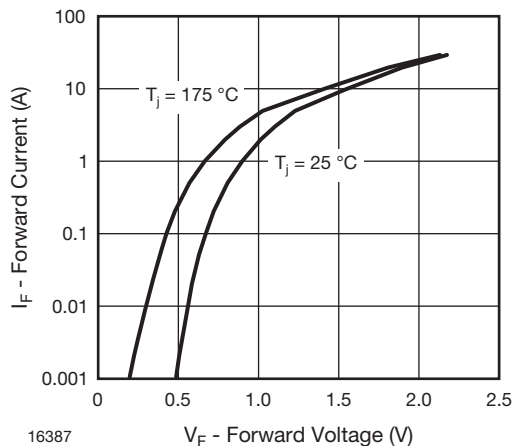


Fig. 2 - Max. Forward Current vs. Forward Voltage

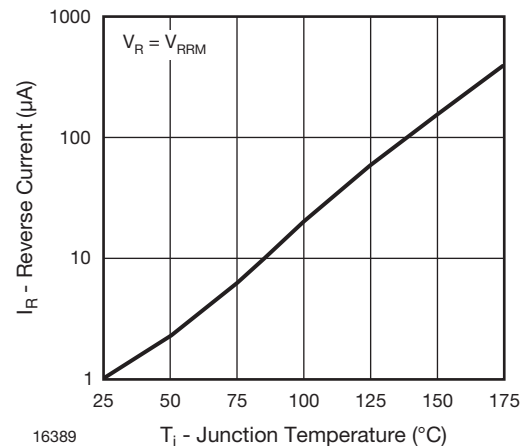


Fig. 4 - Max. Reverse Current vs. Junction Temperature

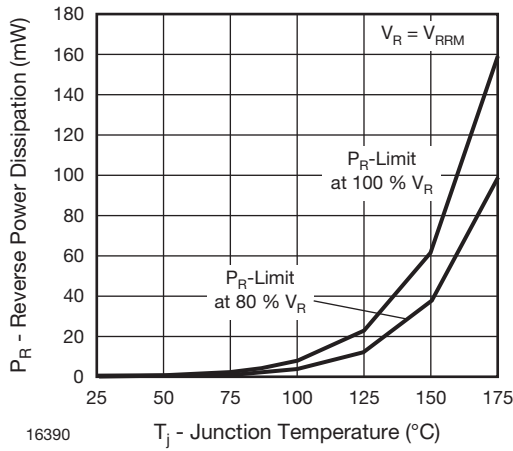


Fig. 5 - Max. Reverse Power Dissipation vs. Junction Temperature

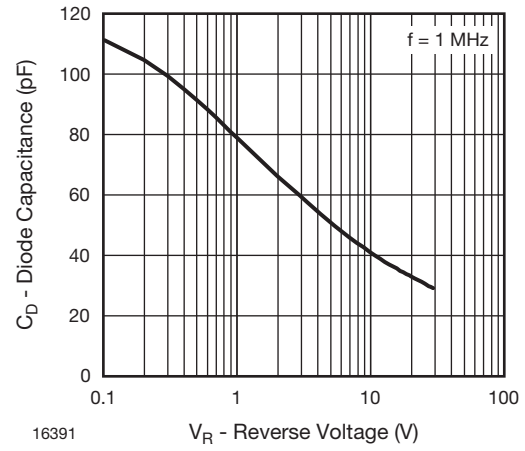


Fig. 6 - Diode Capacitance vs. Reverse Voltage

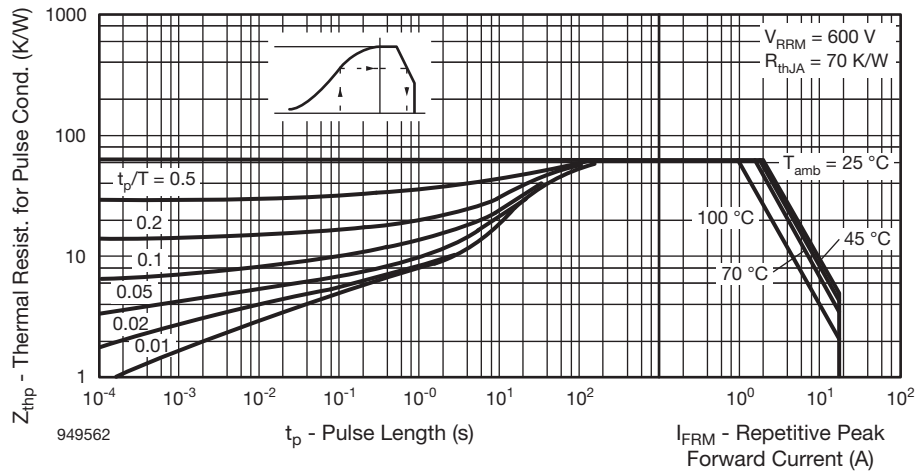
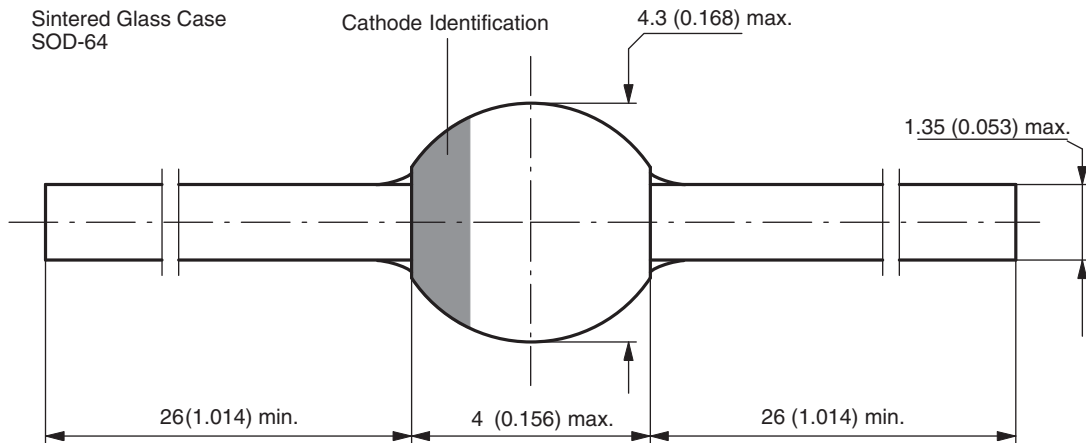


Fig. 7 - Thermal Response

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



Document-No.: 6.563-5006.4-4  
 Rev. 3 - Date: 09.February.2005  
 94 9587



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