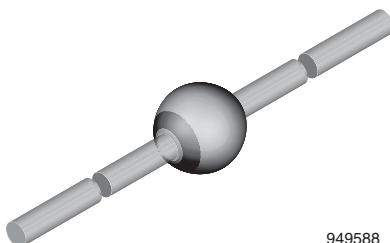


## Fast Avalanche Sinterglass Diode



949588

### DESIGN SUPPORT TOOLS

**3D**  
Models Available

[click logo to get started](#)

### 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)


**RoHS**  
COMPLIANT  
HALOGEN  
FREE

### 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 ammopack	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 mm	$R_{thJA}$	70	K/W

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

PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 3 A$		$V_F$	-	-	1.1	V
	$I_F = 9 A$		$V_F$	-	-	1.5	V
Reverse current	$V_R = V_{RRM}$		$I_R$	-	-	1	$\mu A$
	$V_R = V_{RRM}, T_j = 100^\circ C$		$I_R$	-	-	20	$\mu A$
Reverse recovery time	$I_F = 0.5 A, I_R = 1 A, i_{RR} = 0.25 A$		$t_{rr}$	-	75	100	ns

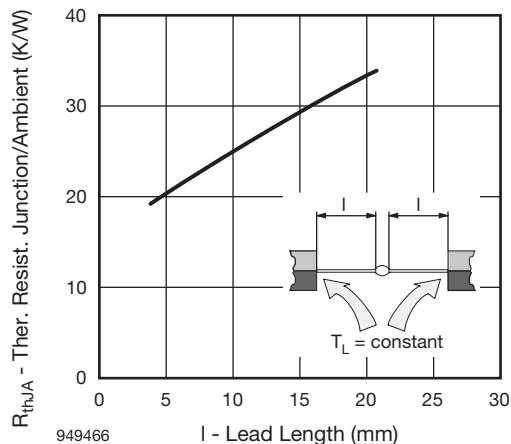
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25^\circ C$ , unless otherwise specified)


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

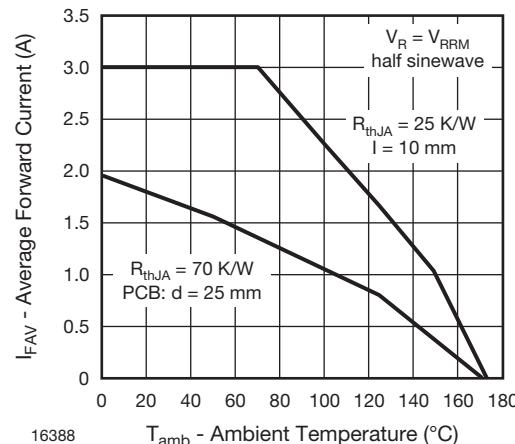


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

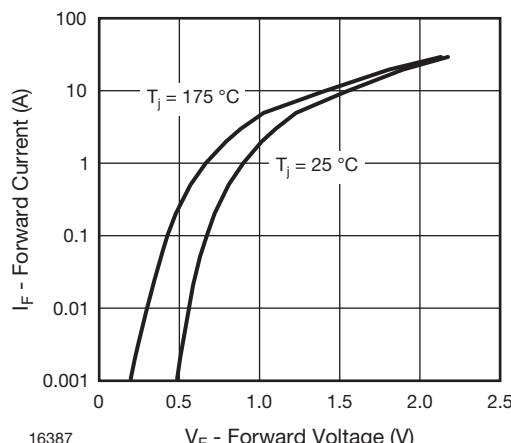


Fig. 2 - Max. Forward Current vs. Forward Voltage

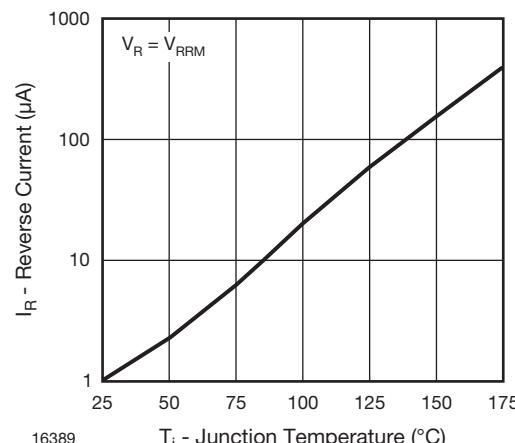


Fig. 4 - Max. Reverse Current vs. Junction Temperature

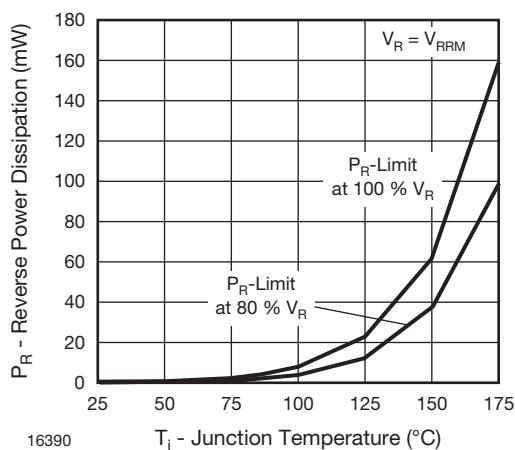


Fig. 5 - Max. Reverse Power Dissipation vs. Junction Temperature

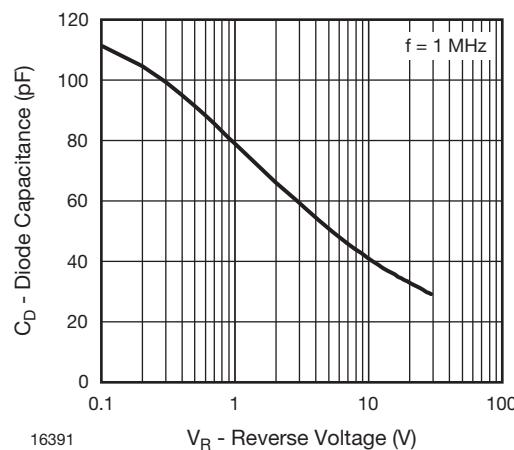


Fig. 6 - Diode Capacitance vs. Reverse Voltage

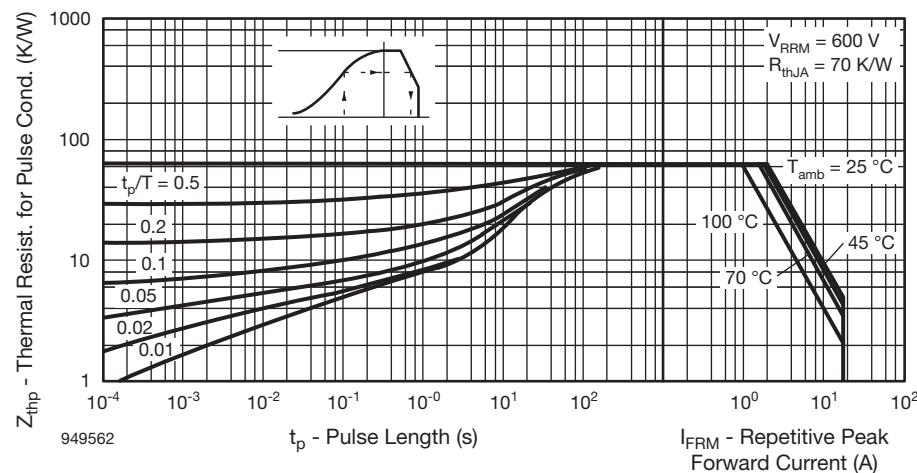
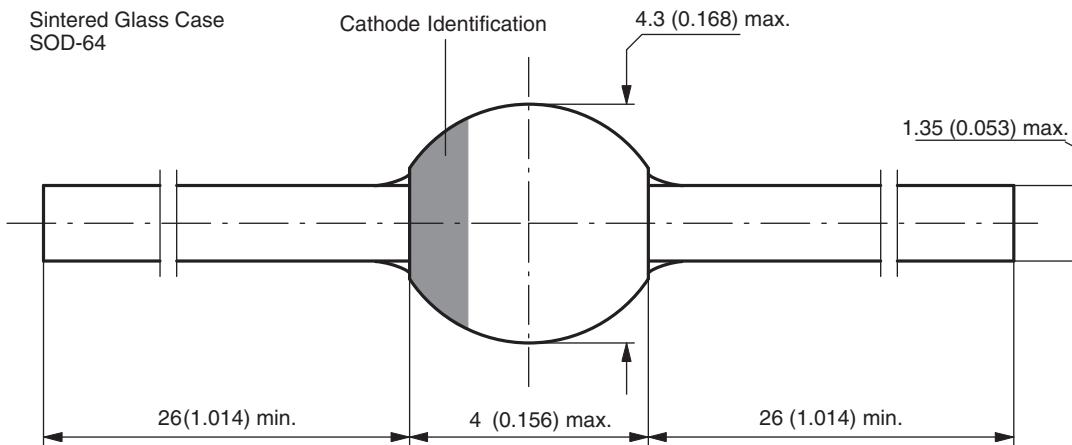


Fig. 7 - Thermal Response

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



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