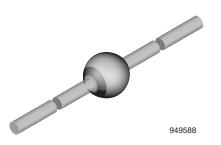


# BYW72, BYW73, BYW74, BYW75, BYW76

Vishay Semiconductors

# **Fast Avalanche Sinterglass Diode**



### **DESIGN SUPPORT TOOLS**

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#### **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
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>



(e2)

COMPLIANT HALOGEN FREE

#### **APPLICATIONS**

 Fast rectification and switching diode for TV-line output circuits and switch mode power supply

ORDERING INFORMATION (Example)					
DEVICE NAME	ORDERING CODE	TAPED UNITS	MINIMUM ORDER QUANTITY		
BYW72 or <b>BYW73</b>	BYW73-TR	2500 per 10" tape and reel	12 500		
BYW72 or <b>BYW73</b>	BYW73-TAP	2500 per ammopack	12 500		
BYW74 or BYW75 or <b>BYW76</b>	BYW76-TR	2500 per 10" tape and reel	12 500		
BYW74 or BYW75 or BYW76	BYW76-TAP	2500 per ammopack	12 500		

PARTS TABLE					
PART	TYPE DIFFERENTIATION	PACKAGE			
BYW72	$V_R = 200 \text{ V}; I_{F(AV)} = 3 \text{ A}$	SOD-64			
BYW73	$V_R = 300 \text{ V}; I_{F(AV)} = 3 \text{ A}$	SOD-64			
BYW74	$V_R = 400 \text{ V}; I_{F(AV)} = 3 \text{ A}$	SOD-64			
BYW75	$V_R = 500 \text{ V}; I_{F(AV)} = 3 \text{ A}$	SOD-64			
BYW76	$V_R = 600 \text{ V}; I_{F(AV)} = 3 \text{ A}$	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 voltage		BYW72	$V_R = V_{RRM}$	200	V	
		BYW73	$V_R = V_{RRM}$	300	V	
	See electrical characteristics	BYW74	$V_R = V_{RRM}$	400	V	
		BYW75	$V_R = V_{RRM}$	500	V	
		BYW76	$V_R = V_{RRM}$	600	V	
Peak forward surge current	$t_p = 10$ ms, half sine wave		I <sub>FSM</sub>	100	Α	
Repetitive peak forward current			I <sub>FRM</sub>	15	Α	
Average forward current			I <sub>F(AV)</sub>	3	Α	
Non repetitive reverse avalanche energy	I <sub>(BR)R</sub> = 0.4 A		E <sub>R</sub>	10	mJ	
Junction and storage temperature range			$T_j = T_{stg}$	-55 to +175	°C	



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MAXIMUM THERMAL RESISTANCE (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		
	On PC board with spacing 25 mm	$R_{thJA}$	70	K/W		

<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		$V_{F}$	-	0.95	1.1	V
Reverse current	$V_R = V_{RRM}$		I <sub>R</sub>	-	1	5	μΑ
	$V_R = V_{RRM}$ , $T_j = 150  ^{\circ}C$		I <sub>R</sub>	-	60	150	μΑ
Reverse recovery time	$I_F = 0.5 \text{ A}, I_R = 1 \text{ A}, i_R = 0.25 \text{ A}$		t <sub>rr</sub>	-	-	200	ns

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

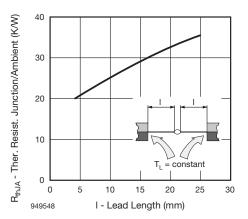


Fig. 1 - Max. Thermal Resistance vs. Lead Length

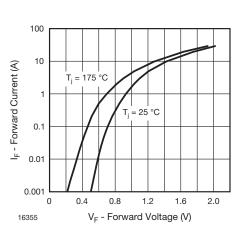


Fig. 2 - Max. Forward Current vs. Forward Voltage

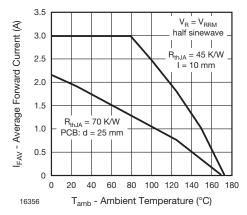


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

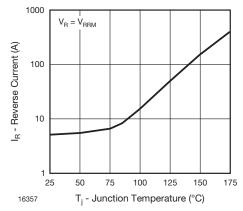


Fig. 4 - Max. Reverse Current vs. Junction Temperature

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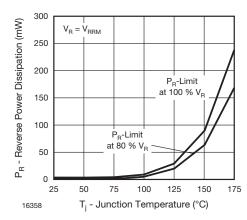


Fig. 5 - Max. Reverse Power Dissipation vs. Junction Temperature

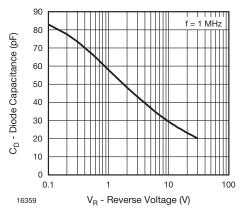


Fig. 6 - Diode Capacitance vs. Reverse Voltage

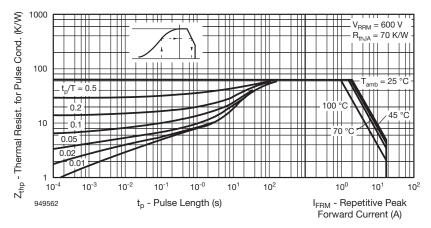
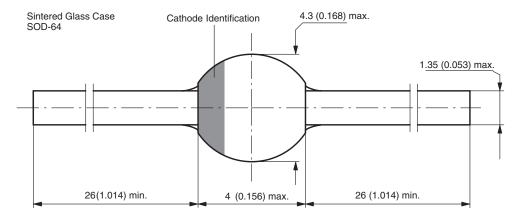


Fig. 7 - Thermal Response

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



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