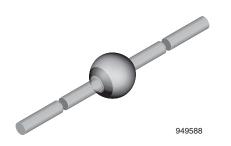
BYW172D, BYW172F, BYW172G

Vishay Semiconductors

Fast Avalanche Sinterglass Diode



DESIGN SUPPORT TOOLS

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





COMPLIANT HALOGEN FREE

APPLICATIONS

Fast rectification diode in SMPS

ORDERING INFORMATION (Example)						
DEVICE NAME	ORDERING CODE	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 V; I _{F(AV)} = 3 A	SOD-64			
BYW172F	V _R = 300 V; I _{F(AV)} = 3 A	SOD-64			
BYW172G	V _R = 400 V; I _{F(AV)} = 3 A	SOD-64			

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT	
		BYW172D	$V_R = V_{RRM}$	200	V	
Reverse voltage = repetitive peak reverse voltage	See electrical characteristics	BYW172F	$V_R = V_{RRM}$	300	V	
Voltage		BYW172G	$V_R = V_{RRM}$	400	V	
Peak forward surge current	$t_p = 10 \text{ ms}$, half sine wave		I _{FSM}	100	Α	
Average forward current			I _{F(AV)}	3	Α	
Non repetitive reverse avalanche energy	I _{(BR)R} = 1 A		E _R	20	mJ	
Junction and storage temperature range			$T_j = T_{stg}$	-55 to +175	°C	

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



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ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	I _F = 3 A		V_{F}	-	-	1.1	V
Torward voltage	I _F = 9 A		V_{F}	-	-	1.5	V
Reverse current	$V_R = V_{RRM}$		I_R	-	-	1	μΑ
	$V_R = V_{RRM}, T_j = 100 ^{\circ}C$		I_R	-	-	20	μΑ
Reverse recovery time	$I_F = 0.5 \text{ A}, I_R = 1 \text{ A}, i_R = 0.25 \text{ A}$		t _{rr}	-	75	100	ns

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

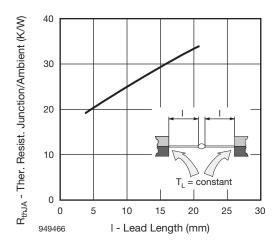


Fig. 1 - Max. Thermal Resistance vs. Lead Length

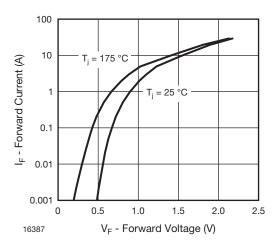


Fig. 2 - Max. Forward Current vs. Forward Voltage

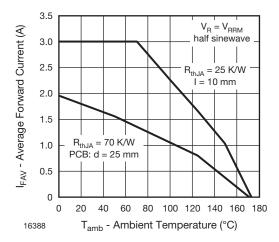


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

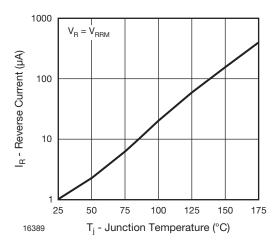
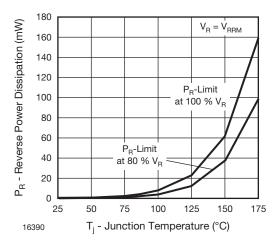


Fig. 4 - Max. Reverse Current vs. Junction Temperature

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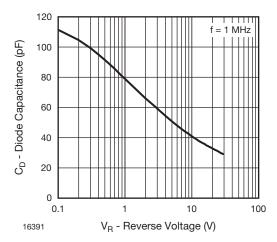


Fig. 5 - Max. Reverse Power Dissipation vs. Junction Temperature

Fig. 6 - Diode Capacitance vs. Reverse Voltage

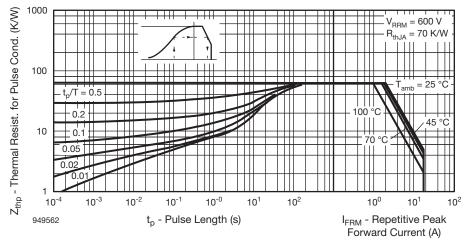
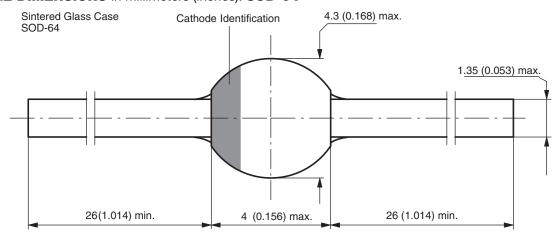


Fig. 7 - Thermal Response

PACKAGE DIMENSIONS in millimeters (inches): SOD-64



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