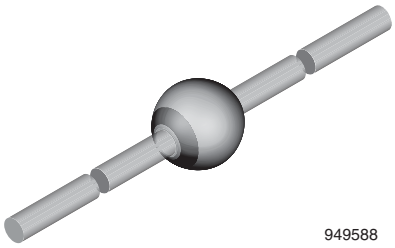
Fast Avalanche Sinterglass Diode



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

RoHS COMPLIANT
HALOGEN FREE

DESIGN SUPPORT TOOLS

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3D Models Available

APPLICATIONS

- Fast rectification diode in SMPS

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

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 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
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 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 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 l = 10 mm, T_L = constant	R_{thJA}	25	K/W
	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
	I_F = 9 A		V_F	-	-	1.5	V
Reverse current	$V_R = V_{RRM}$		I_R	-	-	1	μA
	$V_R = V_{RRM}$, T_j = 100 °C		I_R	-	-	20	μA
Reverse recovery time	I_F = 0.5 A, I_R = 1 A, i_R = 0.25 A		t_{rr}	-	75	100	ns

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

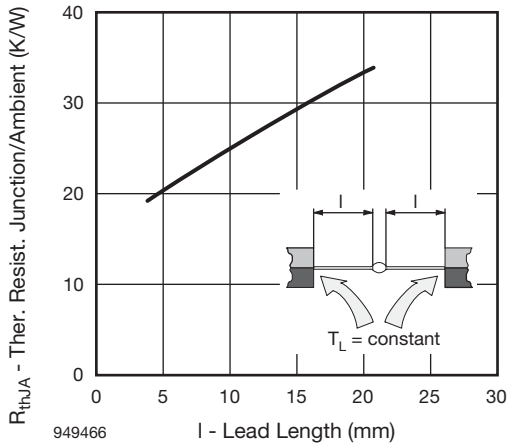

Fig. 1 - Max. Thermal Resistance vs. Lead Length

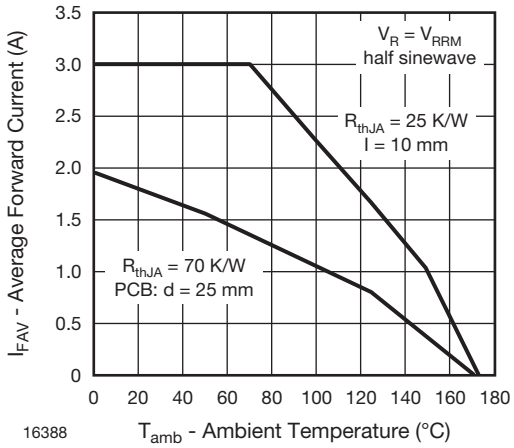

Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

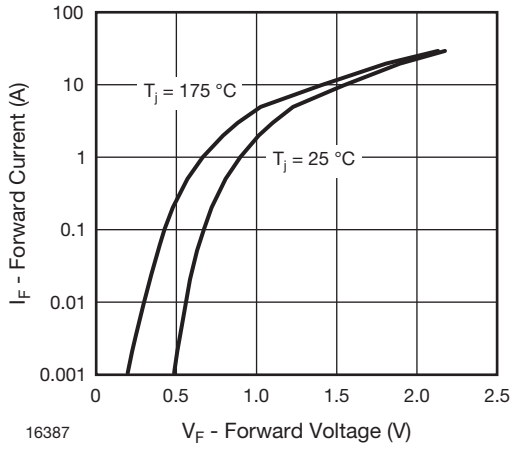

Fig. 2 - Max. Forward Current vs. Forward Voltage

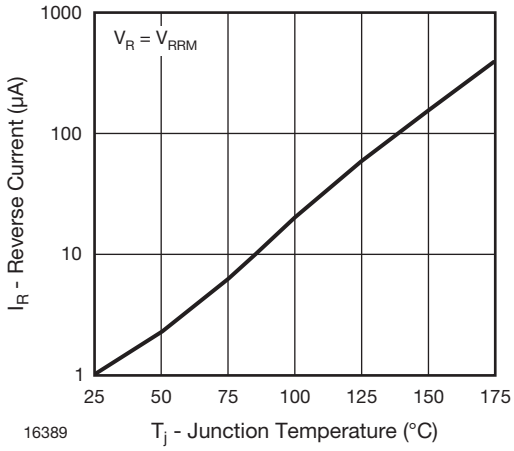

Fig. 4 - Max. Reverse Current vs. Junction Temperature

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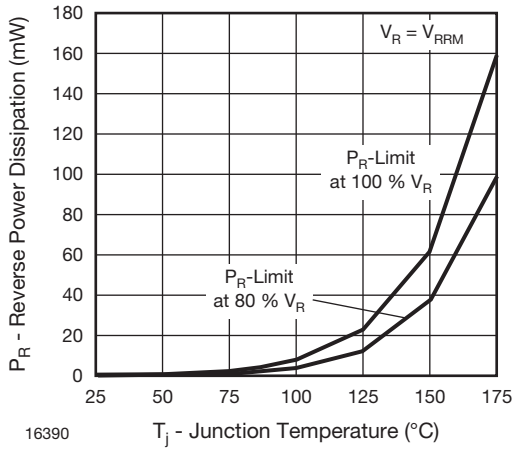


Fig. 5 - Max. Reverse Power Dissipation vs. Junction Temperature

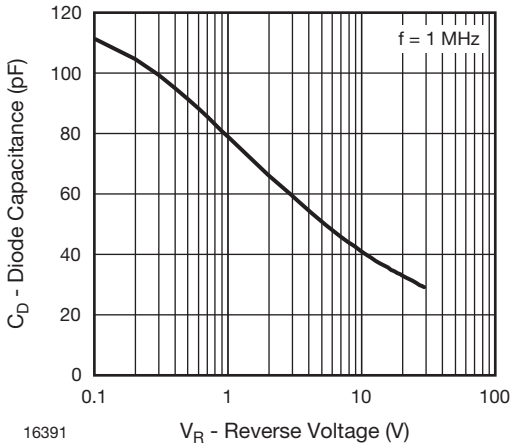


Fig. 6 - Diode Capacitance vs. Reverse Voltage

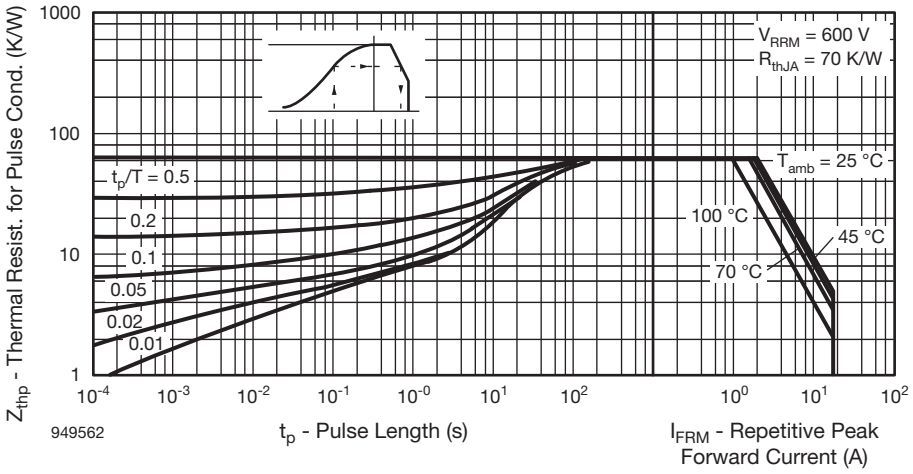
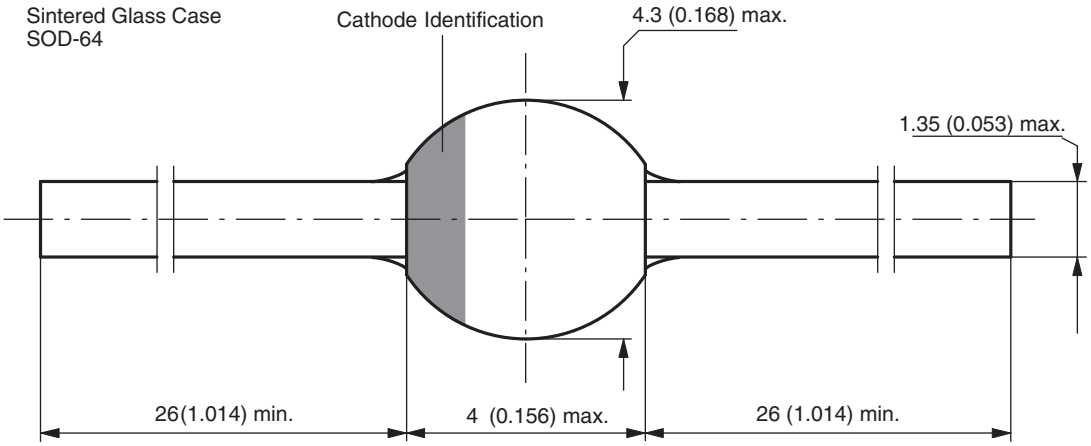


Fig. 7 - Thermal Response

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



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