



## Ultra-Fast Avalanche Sinterglass Diode



949588

### 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

- Controlled avalanche characteristic
- Low forward voltage
- Ultra fast recovery time
- Glass passivated junction
- Hermetically sealed package
- AEC-Q101 qualified
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**

### APPLICATIONS

- Very fast rectification e.g. for switch mode power supply

ORDERING INFORMATION (Example)			
DEVICE NAME	ORDERING CODE	TAPED UNITS	MINIMUM ORDER QUANTITY
BYV28-200	BYV28-200-TR	2500 per 10" tape and reel	12 500
BYV28-200	BYV28-200-TAP	2500 per ammpack	12 500

PARTS TABLE		
PART	TYPE DIFFERENTIATION	PACKAGE
BYV28-50	$V_R = 50\text{ V}; I_{F(AV)} = 3.5\text{ A}$	SOD-64
BYV28-100	$V_R = 100\text{ V}; I_{F(AV)} = 3.5\text{ A}$	SOD-64
BYV28-150	$V_R = 150\text{ V}; I_{F(AV)} = 3.5\text{ A}$	SOD-64
BYV28-200	$V_R = 200\text{ V}; I_{F(AV)} = 3.5\text{ A}$	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	BYV28-50	$V_R = V_{RRM}$	50	V
		BYV28-100	$V_R = V_{RRM}$	100	V
		BYV28-150	$V_R = V_{RRM}$	150	V
		BYV28-200	$V_R = V_{RRM}$	200	V
Peak reverse voltage, non repetitive	See electrical characteristics	BYV28-50	$V_{RSM}$	55	V
		BYV28-100	$V_{RSM}$	110	V
		BYV28-150	$V_{RSM}$	165	V
		BYV28-200	$V_{RSM}$	220	V
Peak forward surge current	$t_p = 10\text{ ms}$ , half sine wave		$I_{FSM}$	90	A
Repetitive peak forward current			$I_{FRM}$	25	A
Average forward current			$I_{F(AV)}$	3.5	A
Pulse energy in avalanche mode, non repetitive (inductive load switch off)	$I_{(BR)R} = 1\text{ A}$ , $T_j = 175\text{ }^\circ\text{C}$		$E_R$	20	mJ
Junction and storage temperature range			$T_j = T_{stg}$	-55 to +175	$^\circ\text{C}$

<b>MAXIMUM THERMAL RESISTANCE</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , 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

<b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 5\text{ A}$		$V_F$	-	-	1.1	V
	$I_F = 5\text{ A}$ , $T_j = 175\text{ }^{\circ}\text{C}$		$V_F$	-	-	0.89	V
Reverse current	$V_R = V_{RRM}$		$I_R$	-	-	1	$\mu\text{A}$
	$V_{RSM}$		$I_R$	-	-	100	$\mu\text{A}$
	$V_R = V_{RRM}$ , $T_j = 165\text{ }^{\circ}\text{C}$		$I_R$	-	-	150	$\mu\text{A}$
Reverse recovery time	$I_F = 0.5\text{ A}$ , $I_R = 1\text{ A}$ , $I_R = 0.25\text{ A}$		$t_{rr}$	-	-	30	ns

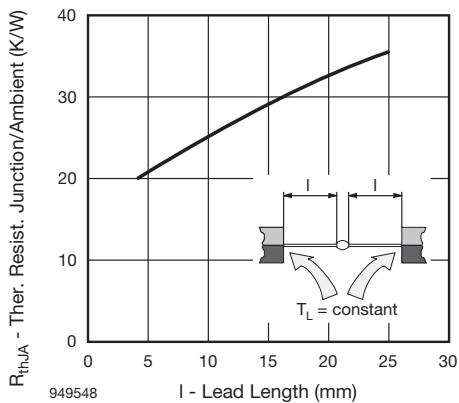
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


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

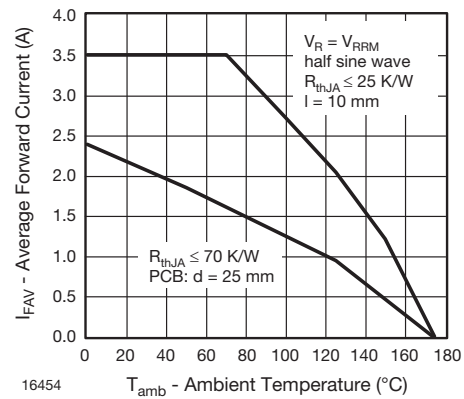


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

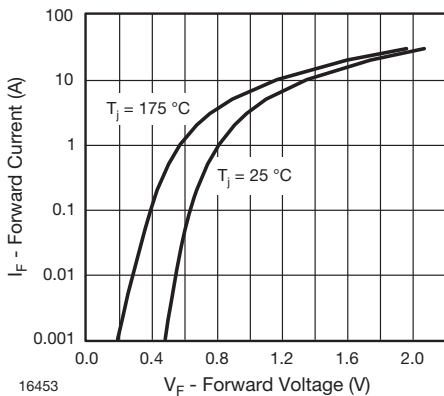


Fig. 2 - Forward Current vs. Forward Voltage

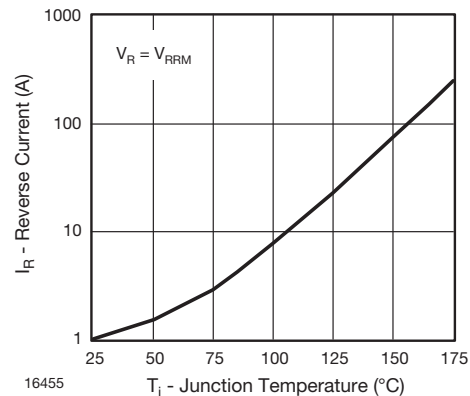


Fig. 4 - Reverse Current vs. Junction Temperature

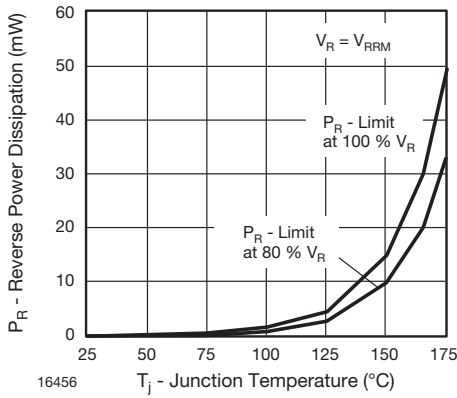


Fig. 5 - Max. Reverse Power Dissipation vs. Junction Temperature

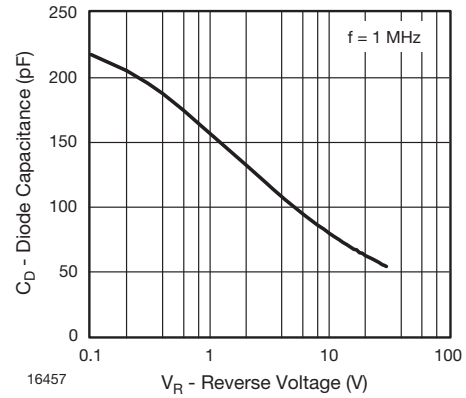
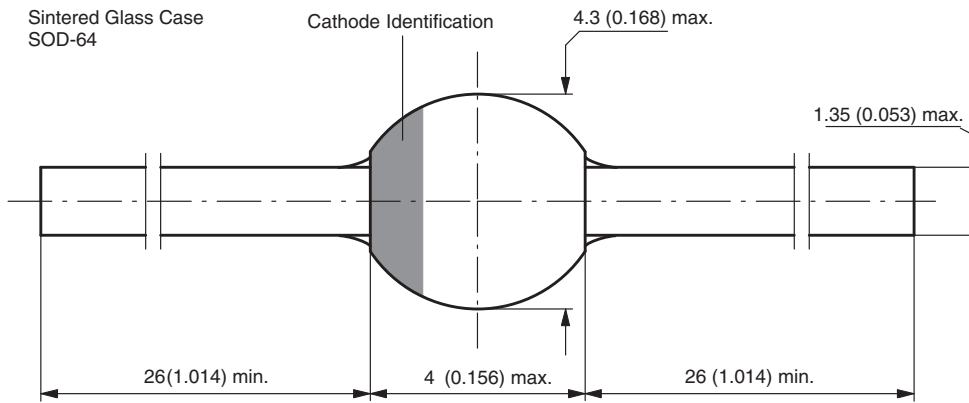


Fig. 6 - Diode Capacitance vs. Reverse Voltage

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



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