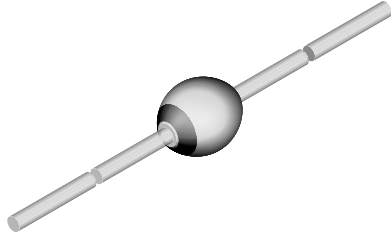




## Standard Avalanche Sinterglass Diode



949539

### FEATURES

- Glass passivated junction
- Hermetically sealed package
- Low reverse current
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



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

### APPLICATIONS

- Rectification diode

### MECHANICAL DATA

**Case:** SOD-57

**Terminals:** plated axial leads, solderable per MIL-STD-750, method 2026

**Polarity:** color band denotes cathode end

**Mounting position:** any

**Weight:** approx. 369 mg

PARTS TABLE		
PART	TYPE DIFFERENTIATION	PACKAGE
BYT51A	$V_R = 50\text{ V}; I_{FAV} = 1.5\text{ A}$	SOD-57
BYT51B	$V_R = 100\text{ V}; I_{FAV} = 1.5\text{ A}$	SOD-57
BYT51D	$V_R = 200\text{ V}; I_{FAV} = 1.5\text{ A}$	SOD-57
BYT51G	$V_R = 400\text{ V}; I_{FAV} = 1.5\text{ A}$	SOD-57
BYT51J	$V_R = 600\text{ V}; I_{FAV} = 1.5\text{ A}$	SOD-57
BYT51K	$V_R = 800\text{ V}; I_{FAV} = 1.5\text{ A}$	SOD-57
BYT51M	$V_R = 1000\text{ V}; I_{FAV} = 1.5\text{ A}$	SOD-57

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	BYT51A	$V_R = V_{RRM}$	50	V
		BYT51B	$V_R = V_{RRM}$	100	V
		BYT51D	$V_R = V_{RRM}$	200	V
		BYT51G	$V_R = V_{RRM}$	400	V
		BYT51J	$V_R = V_{RRM}$	600	V
		BYT51K	$V_R = V_{RRM}$	800	V
		BYT51M	$V_R = V_{RRM}$	1000	V
Peak forward surge current	$t_p = 10\text{ ms}$ , half sine wave		$I_{FSM}$	50	A
Repetitive peak forward current			$I_{FRM}$	9	A
Average forward current	On PC board		$I_{FAV}$	1	A
	$l = 10\text{ mm}$		$I_{FAV}$	1.5	A
Junction and storage temperature range			$T_j = T_{stg}$	- 55 to + 175	$^\circ\text{C}$
Non repetitive reverse avalanche energy	$I_{(BR)R} = 1\text{ A}$		$E_R$	20	mJ

MAXIMUM THERMAL RESISTANCE ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Junction ambient	Lead length $l = 10\text{ mm}$ , $T_L = \text{constant}$	$R_{thJA}$	45	K/W
	On PC board with spacing 25 mm	$R_{thJA}$	100	K/W

ELECTRICAL CHARACTERISTICS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 1\text{ A}$		$V_F$	-	0.95	1.1	V
	$I_F = 1\text{ A}$ , $T_j = 175\text{ }^{\circ}\text{C}$		$V_F$	-	-	1	V
Reverse current	$V_R = V_{RRM}$		$I_R$	-	-	1	$\mu\text{A}$
	$V_R = V_{RRM}$ , $T_j = 150\text{ }^{\circ}\text{C}$		$I_R$	-	-	100	$\mu\text{A}$
Reverse recovery time	$I_F = 0.5\text{ A}$ , $I_R = 1\text{ A}$ , $i_R = 0.25\text{ A}$		$t_{rr}$	-	-	4	$\mu\text{s}$

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

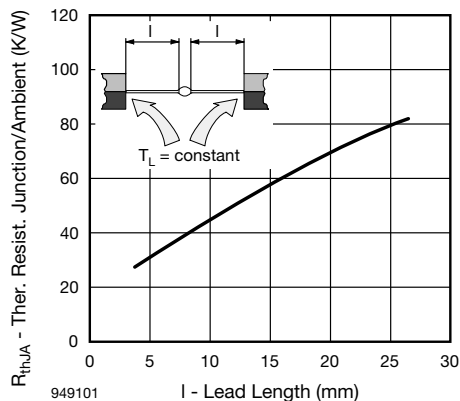


Fig. 1 - Typ. Thermal Resistance vs. Lead Length

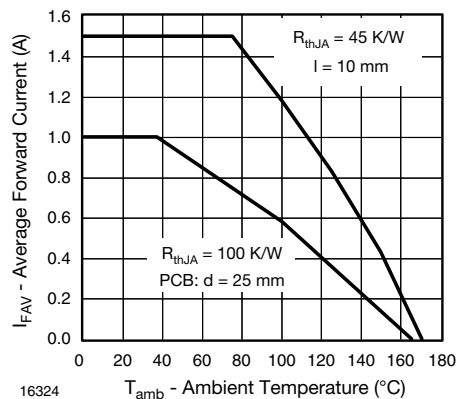


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

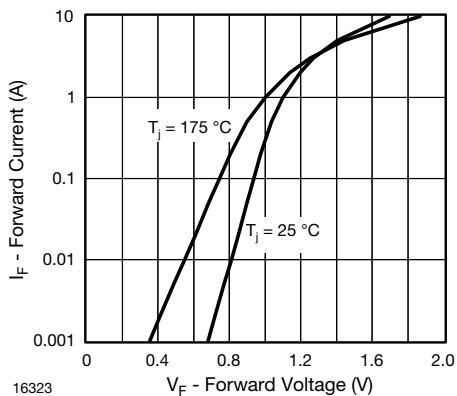


Fig. 2 - Forward Current vs. Forward Voltage

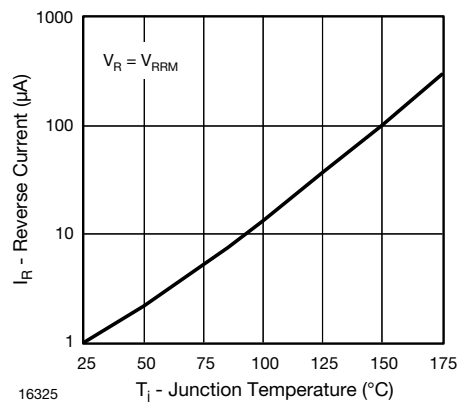


Fig. 4 - Reverse Current vs. Junction Temperature



# BYT51A, BYT51B, BYT51D, BYT51G, BYT51J, BYT51K, BYT51M

Standard Avalanche Sinterglass Diode Vishay Semiconductors

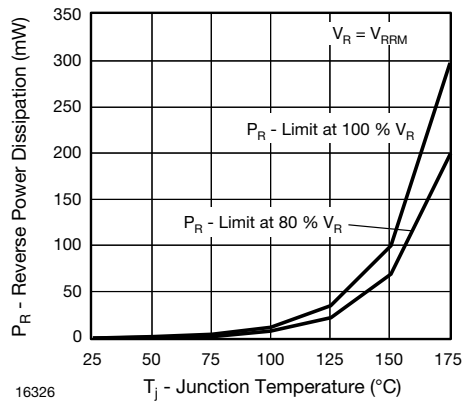


Fig. 5 - Max. Reverse Power Dissipation vs. Junction Temperature

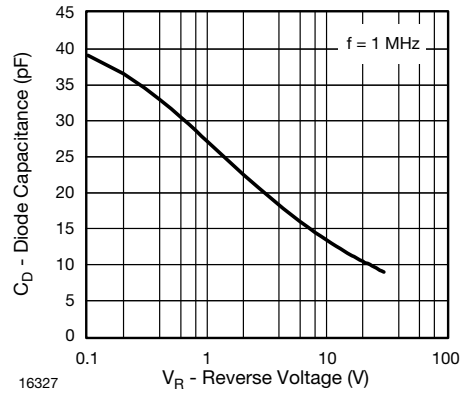
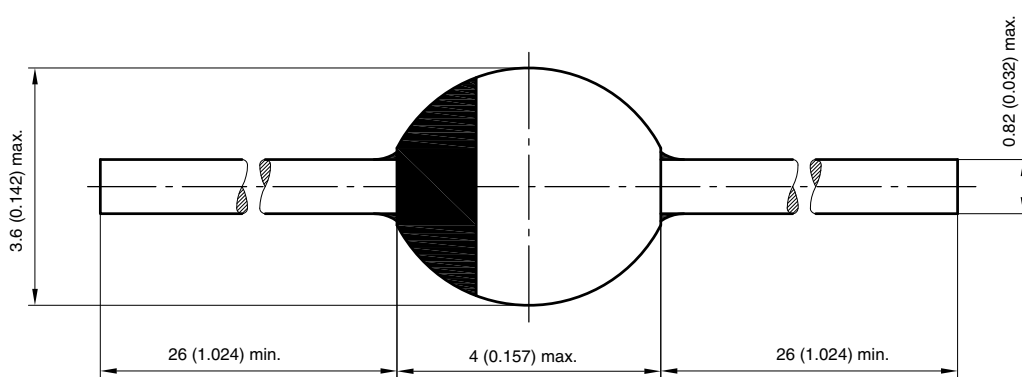


Fig. 6 - Diode Capacitance vs. Reverse Voltage

## PACKAGE DIMENSIONS in millimeters (inches): SOD-57



20543  
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