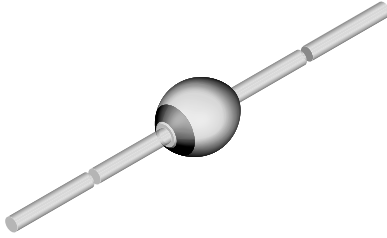




## Standard Avalanche Sinterglass Diode



949539

### FEATURES

- Glass passivated junction
- Hermetically sealed package
- Low reverse current
- Material categorization:  
For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**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

### ORDERING INFORMATION (Example)

DEVICE NAME	ORDERING CODE	TAPED UNITS	MINIMUM ORDER QUANTITY
BYT51M	BYT51M-TR	5000 per 10" tape and reel	25 000
BYT51M	BYT51M-TAP	5000 per ammpack	25 000

### PARTS TABLE

PART	TYPE DIFFERENTIATION	PACKAGE
BYT51A	$V_R = 50\text{ V}$ ; $I_{F(AV)} = 1.5\text{ A}$	SOD-57
BYT51B	$V_R = 100\text{ V}$ ; $I_{F(AV)} = 1.5\text{ A}$	SOD-57
BYT51D	$V_R = 200\text{ V}$ ; $I_{F(AV)} = 1.5\text{ A}$	SOD-57
BYT51G	$V_R = 400\text{ V}$ ; $I_{F(AV)} = 1.5\text{ A}$	SOD-57
BYT51J	$V_R = 600\text{ V}$ ; $I_{F(AV)} = 1.5\text{ A}$	SOD-57
BYT51K	$V_R = 800\text{ V}$ ; $I_{F(AV)} = 1.5\text{ A}$	SOD-57
BYT51M	$V_R = 1000\text{ V}$ ; $I_{F(AV)} = 1.5\text{ A}$	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		$I_{F(AV)}$	1	A
	$l = 10\text{ mm}$		$I_{F(AV)}$	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 <sub>amb</sub> = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	I <sub>F</sub> = 1 A		V <sub>F</sub>	-	0.95	1.1	V
	I <sub>F</sub> = 1 A, T <sub>j</sub> = 175 °C		V <sub>F</sub>	-	-	1	V
Reverse current	V <sub>R</sub> = V <sub>RRM</sub>		I <sub>R</sub>	-	-	1	μA
	V <sub>R</sub> = V <sub>RRM</sub> , T <sub>j</sub> = 150 °C		I <sub>R</sub>	-	-	100	μA
Reverse recovery time	I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1 A, i <sub>R</sub> = 0.25 A		t <sub>rr</sub>	-	-	4	μs

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

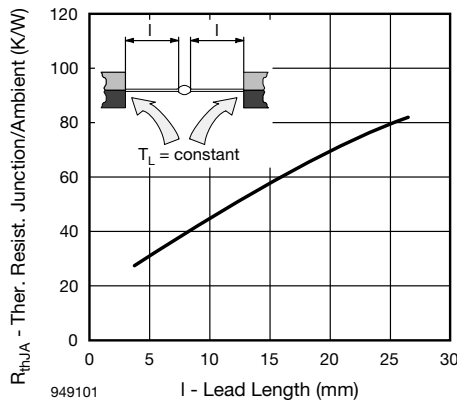


Fig. 1 - Typ. Thermal Resistance vs. Lead Length

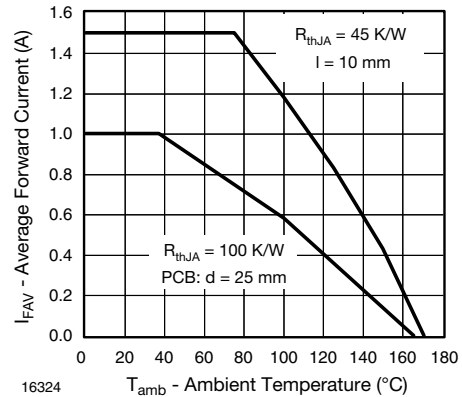


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

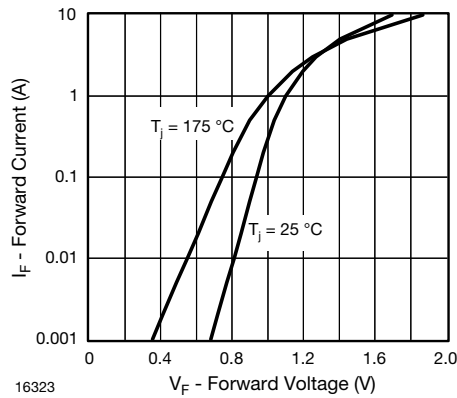


Fig. 2 - Forward Current vs. Forward Voltage

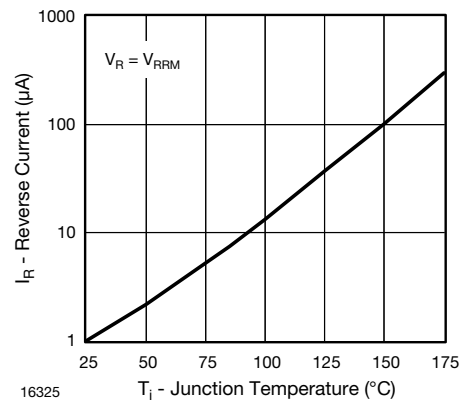


Fig. 4 - Reverse Current vs. Junction Temperature

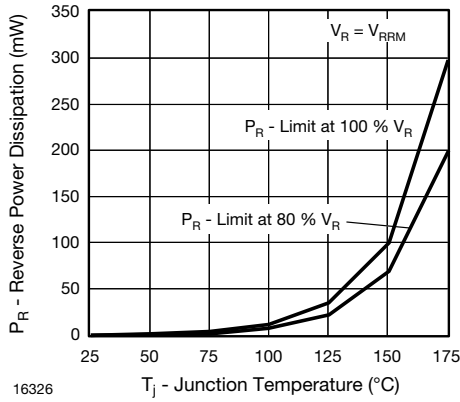


Fig. 5 - Max. Reverse Power Dissipation vs. Junction Temperature

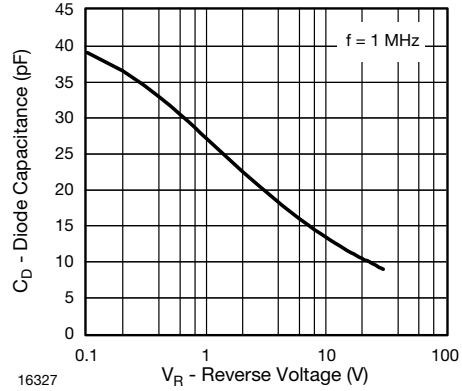
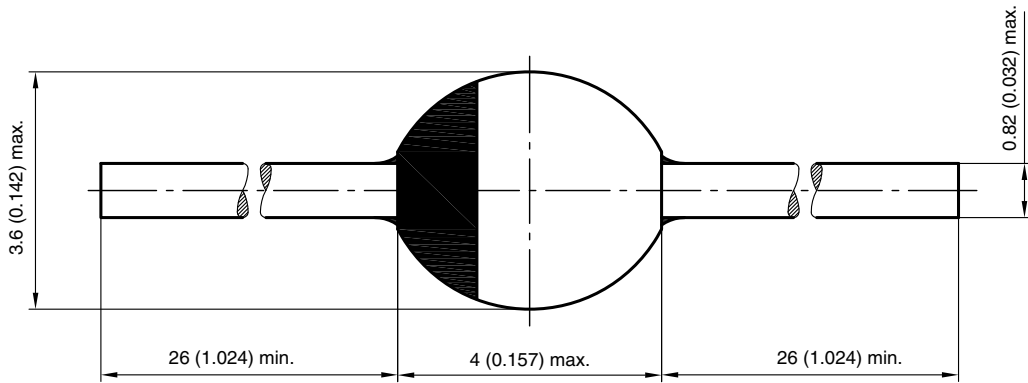


Fig. 6 - Diode Capacitance vs. Reverse Voltage

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



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