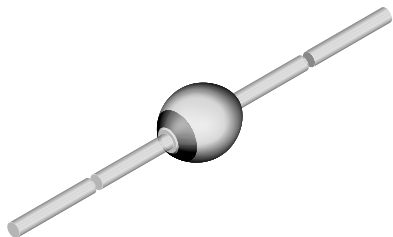




Standard Avalanche Sinterglass Diode



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	μA
	$V_R = V_{RRM}$, $T_j = 150\text{ }^{\circ}\text{C}$		I_R	-	-	100	μA
Reverse recovery time	$I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $i_R = 0.25\text{ A}$		t_{rr}	-	-	4	μs

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

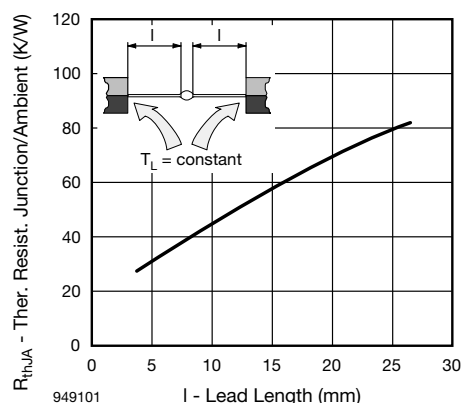


Fig. 1 - Typ. Thermal Resistance vs. Lead Length

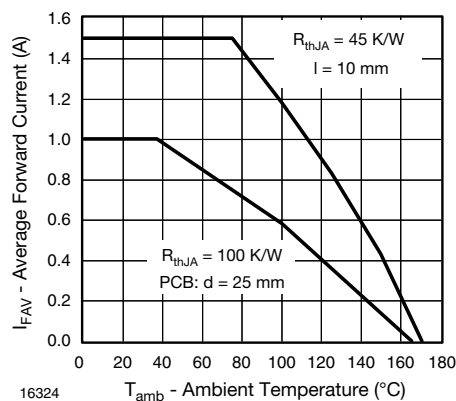


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

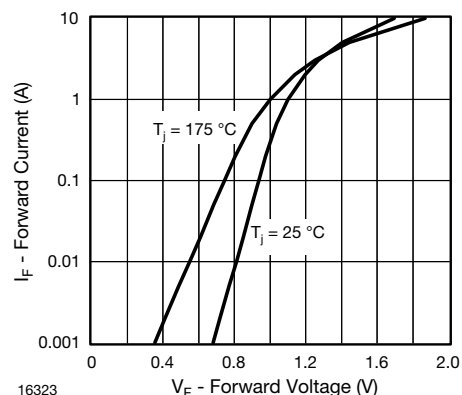


Fig. 2 - Forward Current vs. Forward Voltage

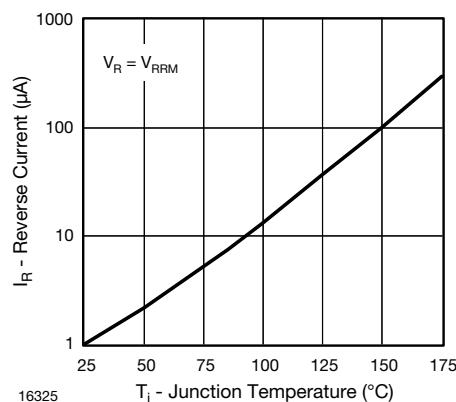


Fig. 4 - Reverse Current vs. Junction Temperature



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

Standard Avalanche Sinterglass
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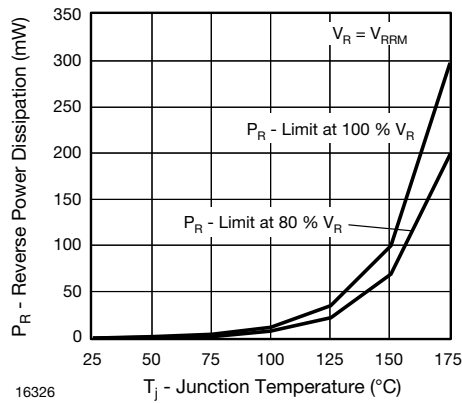


Fig. 5 - Max. Reverse Power Dissipation vs. Junction Temperature

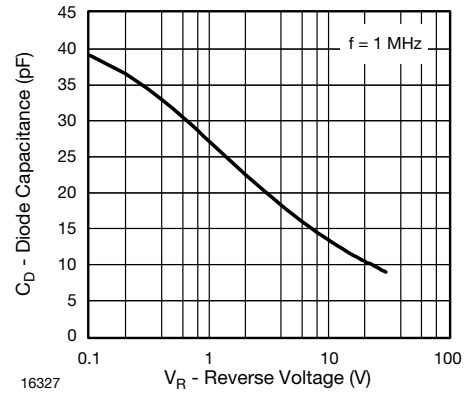
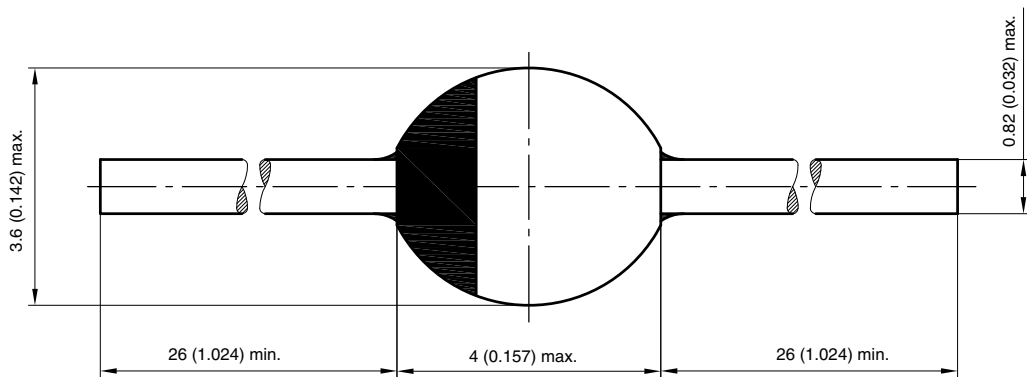


Fig. 6 - Diode Capacitance vs. Reverse Voltage

PACKAGE DIMENSIONS in millimeters (inches): SOD-57



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