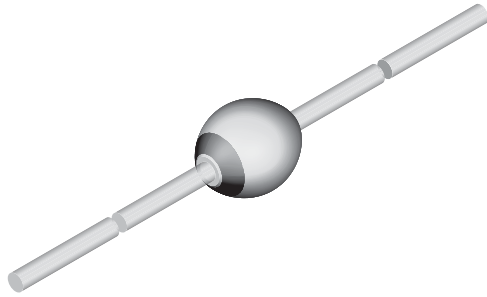




Standard Avalanche Sinterglass Diode



949539

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DESIGN SUPPORT TOOLS



FEATURES

- Controlled avalanche characteristics
Glass passivated junction
Hermetically sealed package
Low reverse current
High surge current loading
AEC-Q101 qualified
Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS COMPLIANT HALOGEN FREE

APPLICATIONS

- Rectification, general purpose

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

Table with 4 columns: DEVICE NAME, ORDERING CODE, TAPED UNITS, MINIMUM ORDER QUANTITY. Rows for BYW56 (TR and TAP).

Table with 3 columns: PART, TYPE DIFFERENTIATION, PACKAGE. Rows for BYW52 through BYW56.

Table with 6 columns: PARAMETER, TEST CONDITION, PART, SYMBOL, VALUE, UNIT. Rows for Reverse voltage, Peak forward surge current, Repetitive peak forward current, Average forward current, Pulse avalanche peak power, Pulse energy in avalanche mode, i²t-rating, Junction and storage temperature range.

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	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 1\text{ A}$	V_F	-	0.9	1	V
Reverse current	$V_R = V_{RRM}$	I_R	-	0.1	1	μA
	$V_R = V_{RRM}$, $T_j = 100\text{ }^{\circ}\text{C}$	I_R	-	5	10	μA
Breakdown voltage	$I_R = 100\text{ }\mu\text{A}$, $t_p/T = 0.01$, $t_p = 0.3\text{ ms}$	$V_{(BR)}$	-	-	1600	V
Diode capacitance	$V_R = 4\text{ V}$, $f = 1\text{ MHz}$	C_D	-	18	-	pF
Reverse recovery time	$I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $i_R = 0.25\text{ A}$	t_{rr}	-	-	4000	ns
	$I_F = 1\text{ A}$, $di/dt = 5\text{ A}/\mu\text{s}$, $V_R = 50\text{ V}$	t_{rr}	-	-	4000	ns
Reverse recovery charge	$I_F = 1\text{ A}$, $di/dt = 5\text{ A}/\mu\text{s}$	Q_{rr}	-	-	200	nC

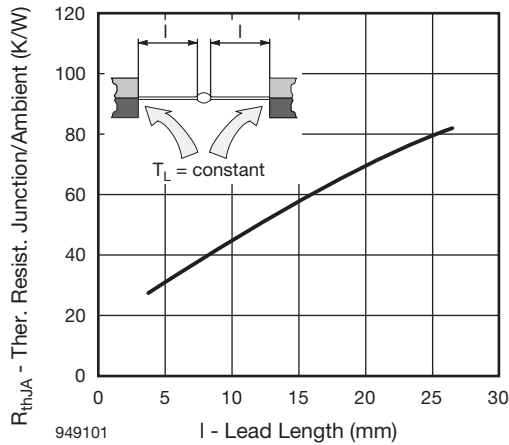
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


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

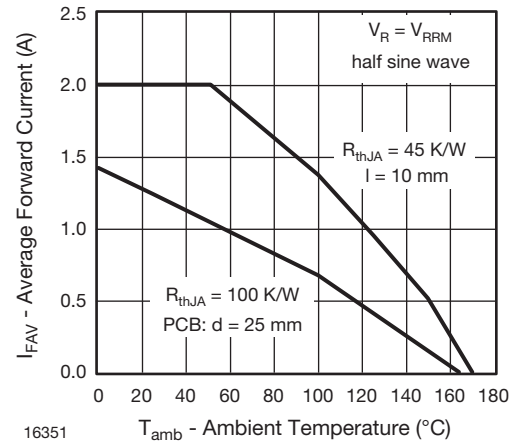


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

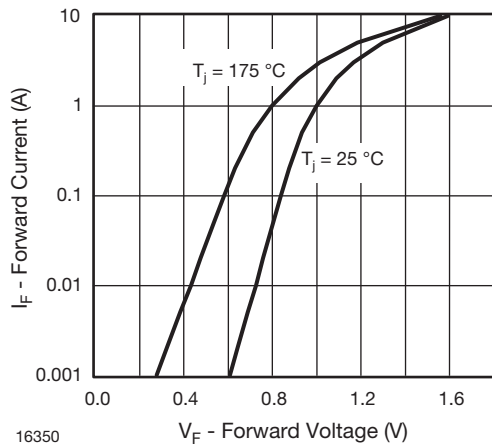


Fig. 2 - Forward Current vs. Forward Voltage

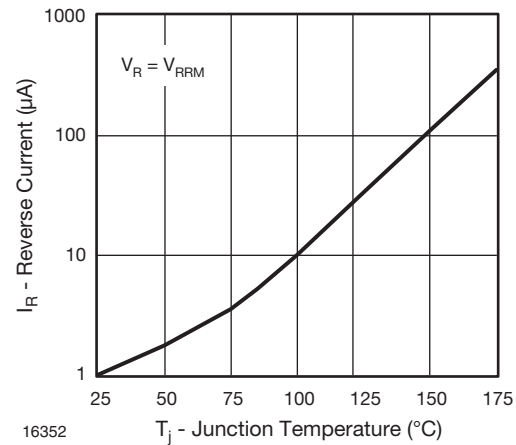


Fig. 4 - Reverse Current vs. Junction Temperature

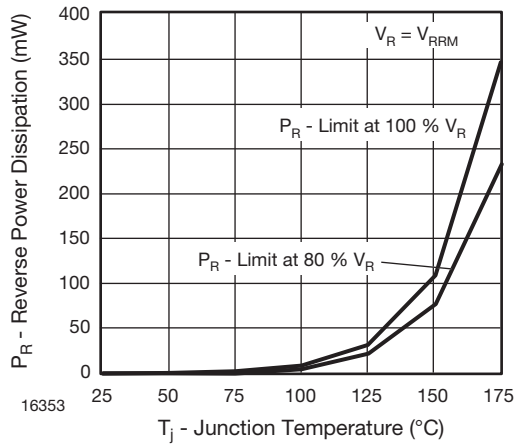


Fig. 5 - Max. Reverse Power Dissipation vs. Junction Temperature

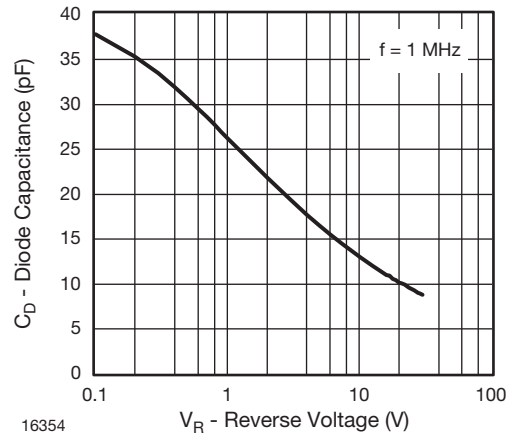


Fig. 6 - Diode Capacitance vs. Reverse Voltage

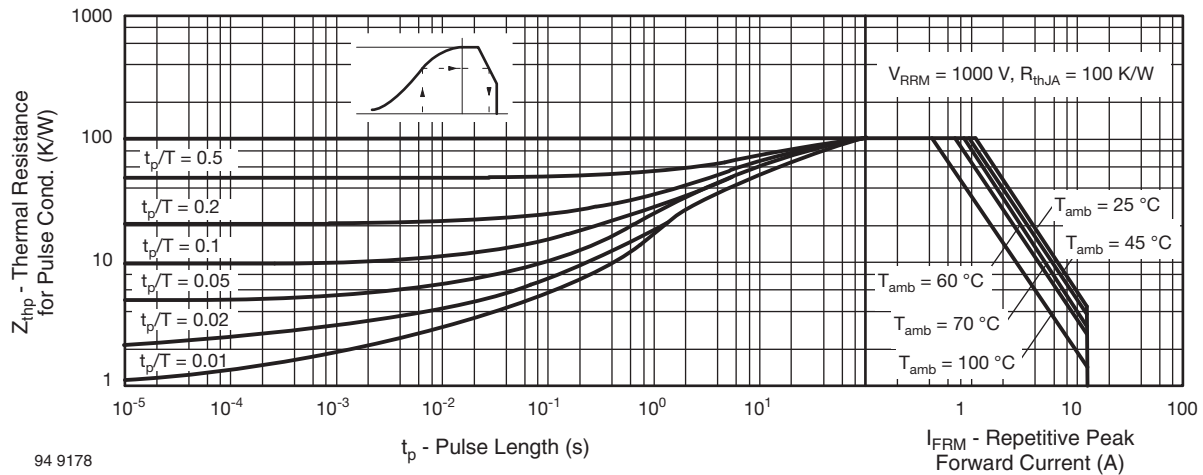
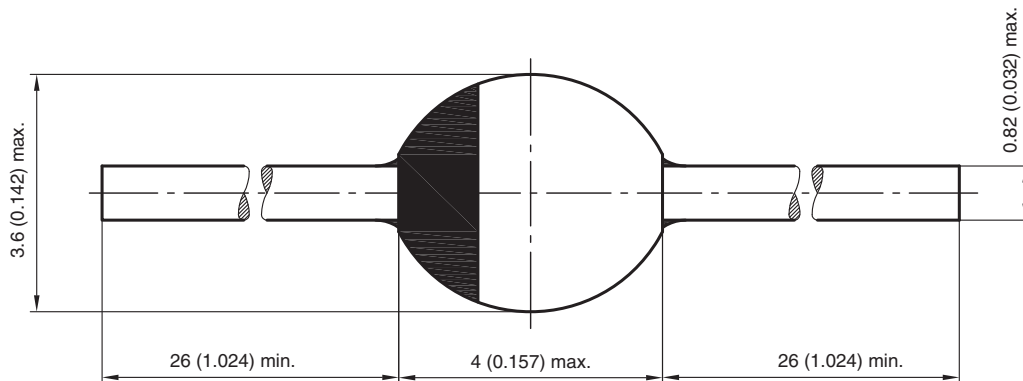


Fig. 7 - Thermal Response

PACKAGE DIMENSIONS in millimeters (inches): SOD-57



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