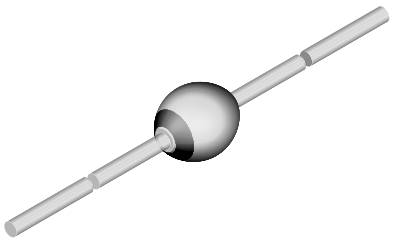
Standard Avalanche Sinterglass Diode



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FEATURES

- Glass passivated junction
- Hermetically sealed package
- Material categorization:
  For definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT
HALOGEN FREE

APPLICATIONS

- High voltage rectification
- Efficiency diode in horizontal deflection circuits

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
BY458	BY458TR	5000 per 10" tape and reel	25 000
BY458	BY458TAP	5000 per ammopack	25 000

PARTS TABLE

PART	TYPE DIFFERENTIATION	PACKAGE
BY448	V_R = 1500 V, I_{FAV} = 2 A	SOD-57
BY458	V_R = 1200 V, I_{FAV} = 2 A	SOD-57

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Reverse voltage	See electrical characteristics	BY448	$V_R = V_{RRM}$	1500	V
		BY458	$V_R = V_{RRM}$	1200	V
Peak forward surge current	t_p = 10 ms, half sine wave		I_{FSM}	30	A
Average forward current			I_{FAV}	2	A
Junction temperature			T_j	140	°C
Storage temperature range			T_{stg}	- 55 to + 175	°C
Non repetitive reverse avalanche energy	$I_{(BR)R}$ = 0.4 A		E_R	10	mJ

MAXIMUM THERMAL RESISTANCE (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Junction ambient	l = 10 mm, T_L = constant	R_{thJA}	45	K/W
	On PC board with spacing 25 mm	R_{thJA}	100	K/W

ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)						
PARAMETER	**TEST CONDITION**	**SYMBOL**	**MIN.**	**TYP.**	**MAX**	**UNIT**
Forward voltage	I_F = 3 A	V_F	-	-	1.6	V
Reverse current	$V_R = V_{RRM}$	I_R	-	-	3	µA
	$V_R = V_{RRM}$, T_j = 140 °C	I_R	-	-	140	µA
Reverse recovery time	I_F = 0.5 A, I_R = 1 A, i_R = 0.25 A	t_{rr}	-	-	2000	ns
Total reverse recovery time	I_F = 1 A, - dI_F/dt = 0.05 A/µs	t_{rr}	-	-	20	µs

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

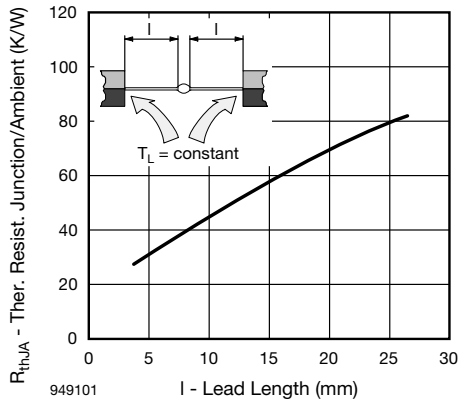


Fig. 1 - Typ. Thermal Resistance vs. Lead Length

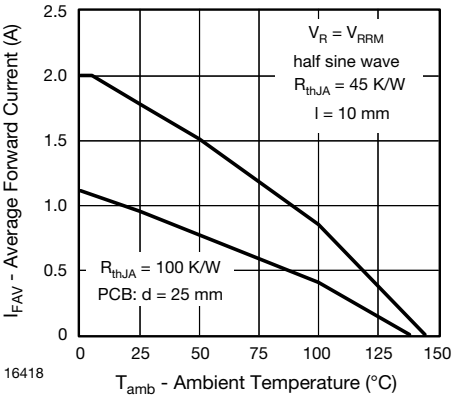


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

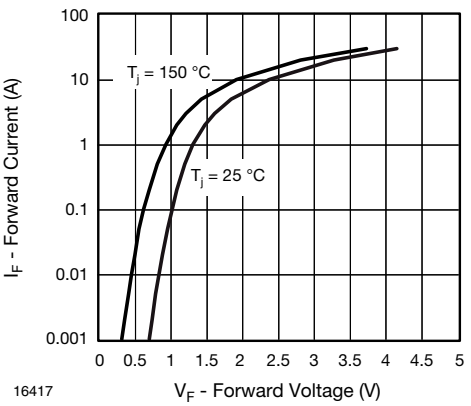


Fig. 2 - Forward Current vs. Forward Voltage

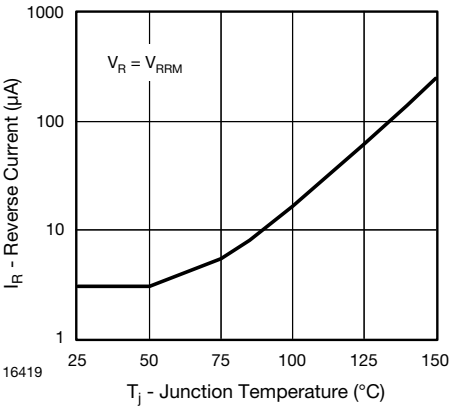


Fig. 4 - Reverse Current vs. Junction Temperature

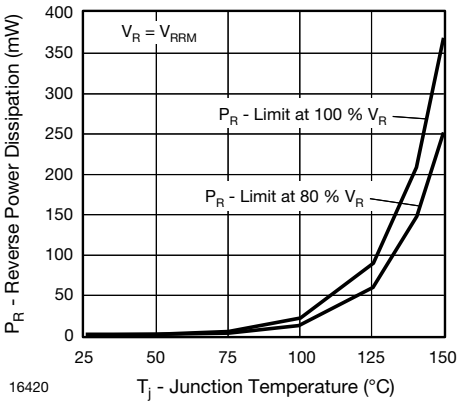


Fig. 5 - Max. Reverse Power Dissipation vs. Junction Temperature

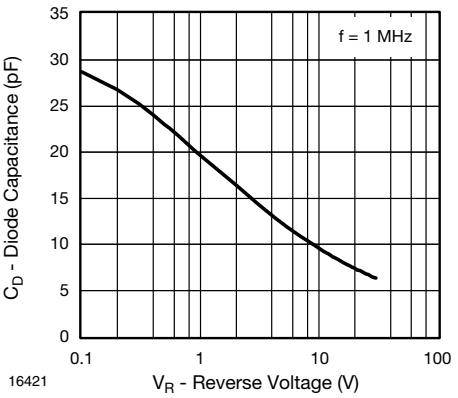
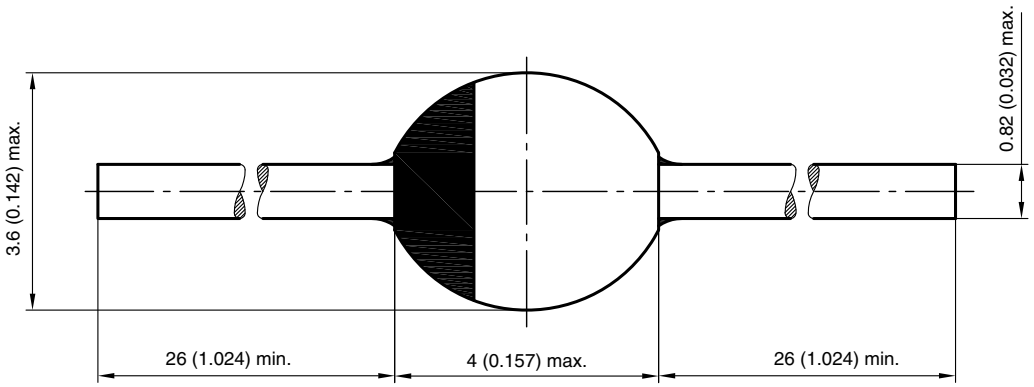


Fig. 6 - Diode Capacitance vs. Reverse Voltage

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



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