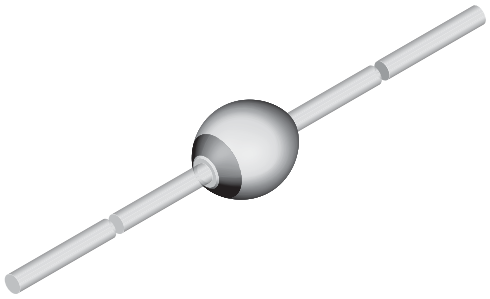
Standard Avalanche Sinterglass Diode



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FEATURES

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

RoHS COMPLIANT

HALOGEN FREE

APPLICATIONS

- Rectification, general purpose

DESIGN SUPPORT TOOLS

click logo to get started

3D Models Available

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
BYX86	BYX86TR	5000 per 10" tape and reel	25 000
BYX86	BYX86TAP	5000 per ammopack	25 000

PARTS TABLE

PART	TYPE DIFFERENTIATION	PACKAGE
BYX82	V_R = 200 V; $I_{F(AV)}$ = 2 A	SOD-57
BYX83	V_R = 400 V; $I_{F(AV)}$ = 2 A	SOD-57
BYX84	V_R = 600 V; $I_{F(AV)}$ = 2 A	SOD-57
BYX85	V_R = 800 V; $I_{F(AV)}$ = 2 A	SOD-57
BYX86	V_R = 1000 V; $I_{F(AV)}$ = 2 A	SOD-57

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

PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Reverse voltage = repetitive peak reverse voltage	See electrical characteristics	BYX82	$V_R = V_{RRM}$	200	V
		BYX83	$V_R = V_{RRM}$	400	V
		BYX84	$V_R = V_{RRM}$	600	V
		BYX85	$V_R = V_{RRM}$	800	V
		BYX86	$V_R = V_{RRM}$	1000	V
Peak forward surge current	t_p = 10 ms, half sine wave		I_{FSM}	50	A
Repetitive peak forward current			I_{FRM}	10	A
Average forward current	$T_{amb} \leq 45$ °C		$I_{F(AV)}$	2	A
i^2t-rating			$i^2 t$	8	A^2s
Junction and storage temperature range			$T_j = T_{stg}$	-55 to +175	°C

MAXIMUM THERMAL RESISTANCE (T_{amb} = 25 °C, unless otherwise specified)				
PARAMETER	**TEST CONDITION**	**SYMBOL**	**VALUE**	**UNIT**
Junction ambient	Lead length 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 = 1 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 °C	I_R	-	10	25	µA
Diode capacitance	V_R = 4 V, f = 1 MHz	C_D	-	20	-	pF
Reverse recovery time	I_F = 0.5 A, I_R = 1 A, i_R = 0.25 A	t_{rr}	-	2000	4000	ns
Reverse recovery charge	$I_F = I_R$ = 1 A, dI/dt = 5 A/µs	Q_{rr}	-	3	6	µC

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

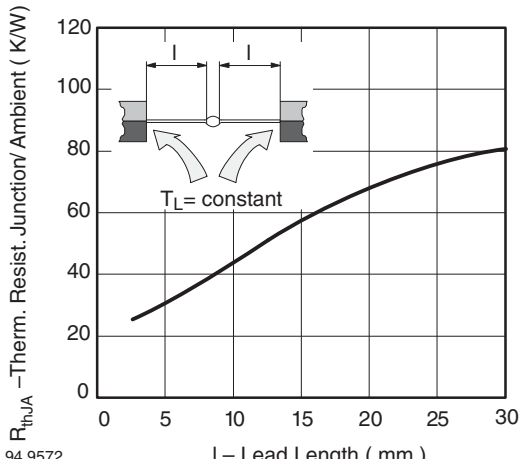


Fig. 1 - Max. Thermal Resistance vs. Lead Length

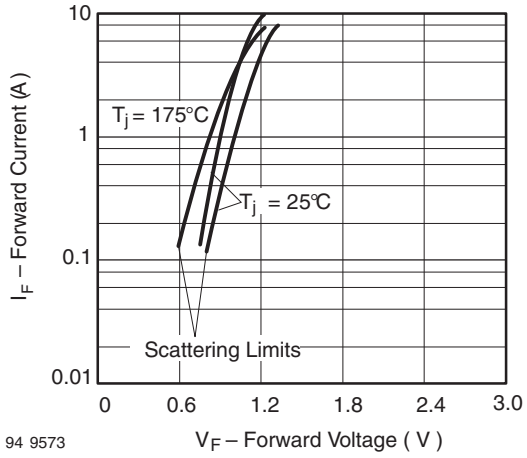


Fig. 3 - Forward Current vs. Forward Voltage

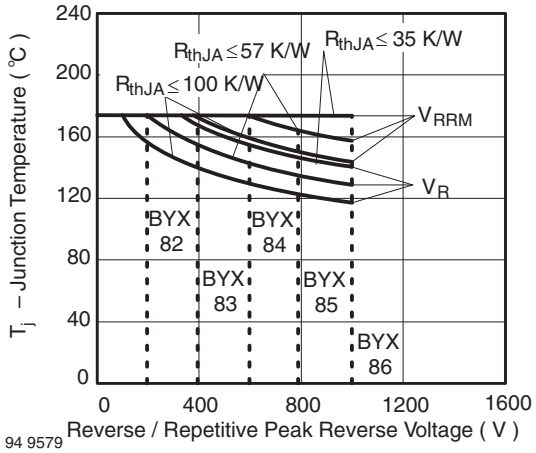


Fig. 2 - Junction Temperature vs.
Reverse / Repetitive Peak Reverse Voltage

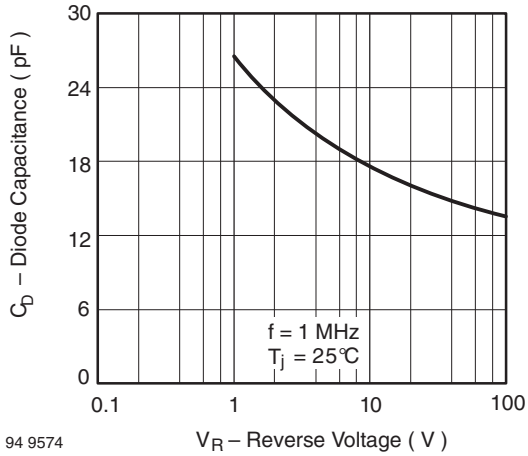


Fig. 4 - Typ. Diode Capacitance vs. Reverse Voltage

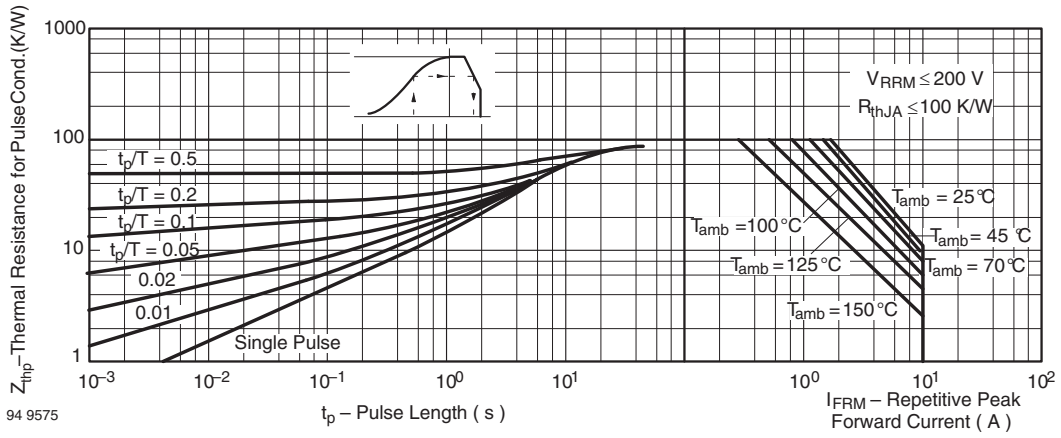


Fig. 5 - Thermal Response

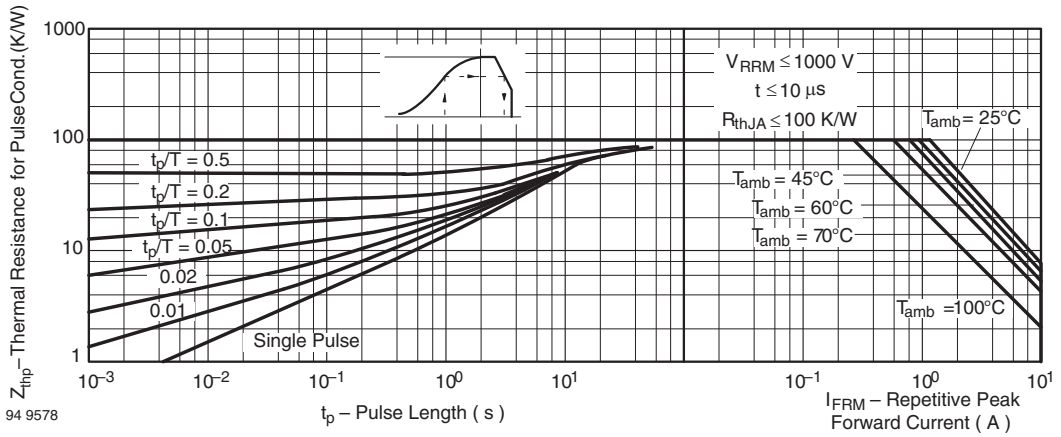


Fig. 6 - Thermal Response

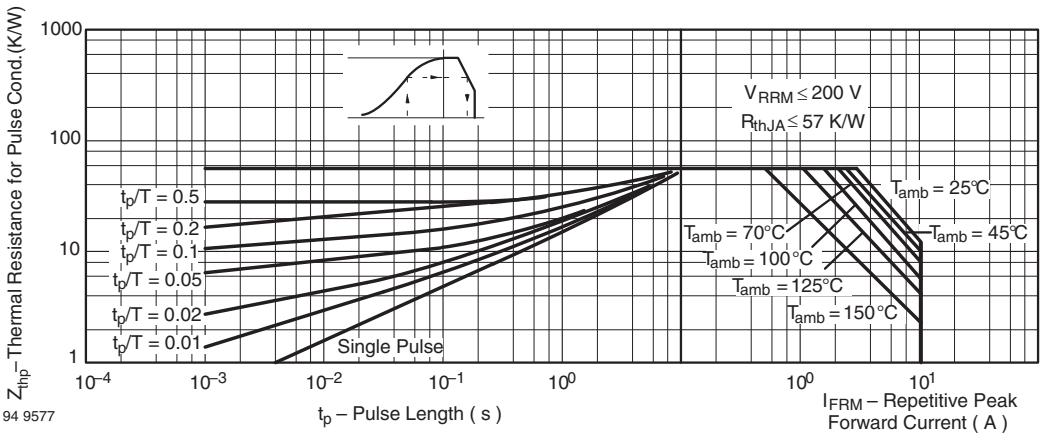


Fig. 7 - Thermal Response

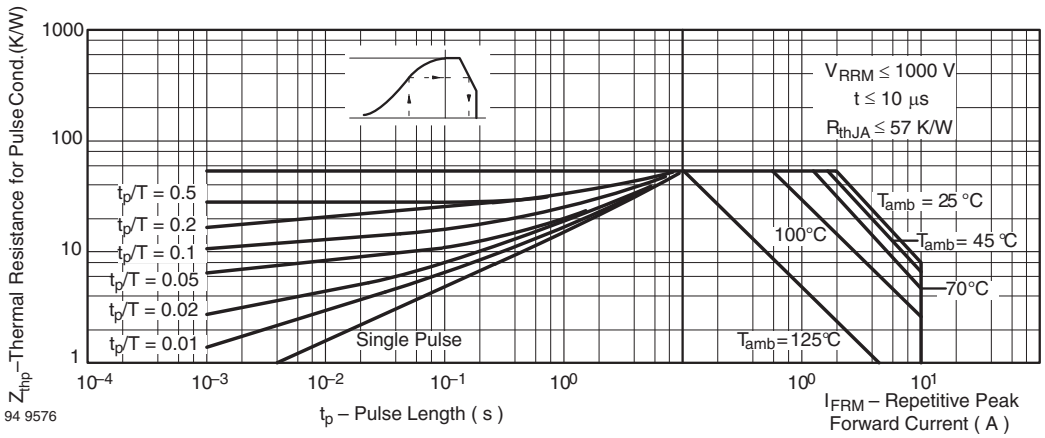
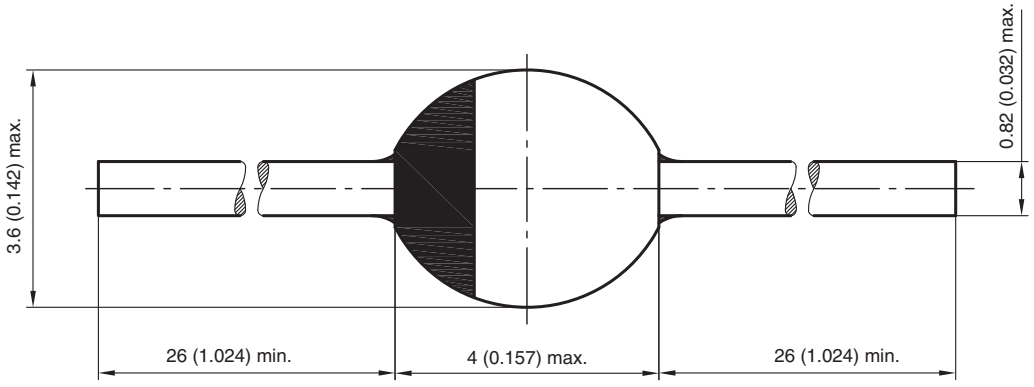


Fig. 8 - Thermal Response

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



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