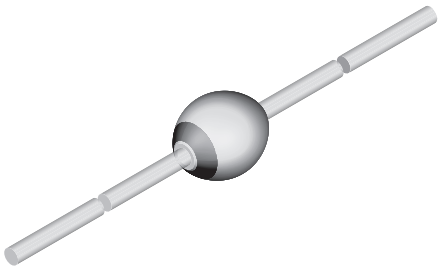
Fast Avalanche Sinterglass Diode



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FEATURES

- Glass passivated junction
- Hermetically sealed package
- Low reverse current
- Soft recovery characteristics
- 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

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

APPLICATIONS

- Fast “soft recovery” rectification diode

PARTS TABLE

PART	TYPE DIFFERENTIATION	PACKAGE
BYV37	V_R = 800 V; I_{FAV} = 2 A	SOD-57
BYV38	V_R = 1000 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	BYV37	$V_R = V_{RRM}$	800	V
		BYV38	$V_R = V_{RRM}$	1000	V
Peak forward surge current	t_p = 10 ms, half sine wave		I_{FSM}	50	A
Average forward current			I_{FAV}	2	A
Non repetitive reverse avalanche energy	$I_{(BR)R}$ = 0.4 A		E_R	10	mJ
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	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	I_F = 1 A		V_F	-	1	1.1	V
Reverse current	$V_R = V_{RRM}$		I_R	-	-	5	µA
	$V_R = V_{RRM}$, T_j = 150 °C		I_R	-	-	150	µA
Reverse recovery time	I_F = 0.5 A, I_R = 1 A, i_R = 0.25 A		t_{rr}	-	-	300	ns
Diode capacitance	V_R = 4 V, f = 1 MHz		C_D	-	15	-	pF

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

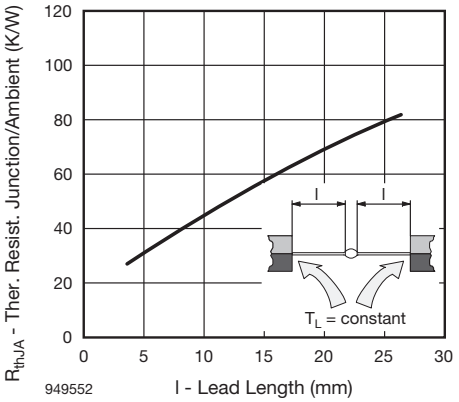


Fig. 1 - Max. Thermal Resistance vs. Lead Length

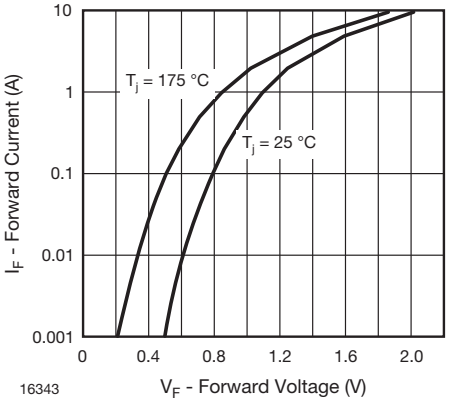


Fig. 4 - Forward Current vs. Forward Voltage

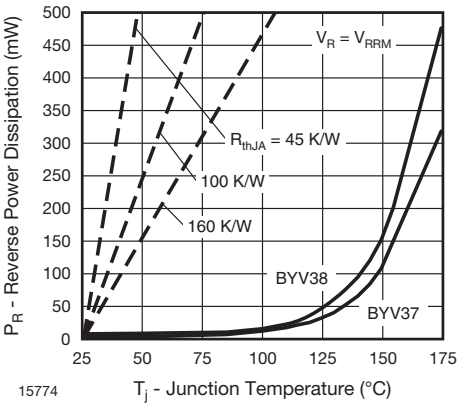


Fig. 2 - Max. Reverse Power Dissipation vs. Junction Temperature

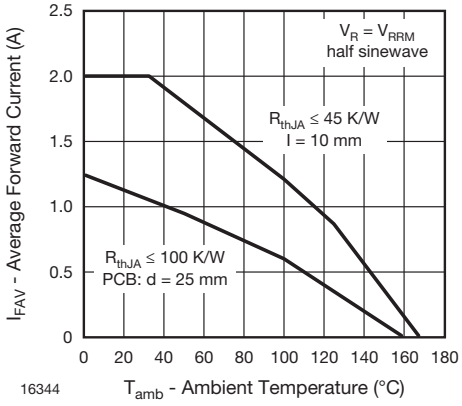


Fig. 5 - Max. Average Forward Current vs. Ambient Temperature

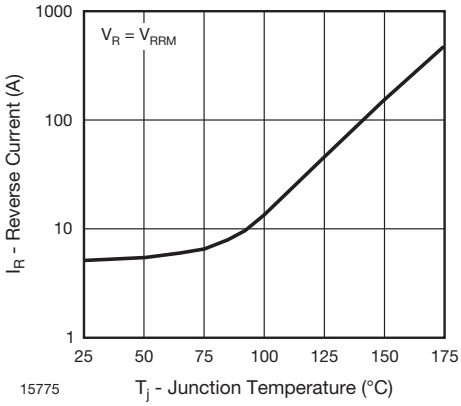


Fig. 3 - Max. Reverse Current vs. Junction Temperature

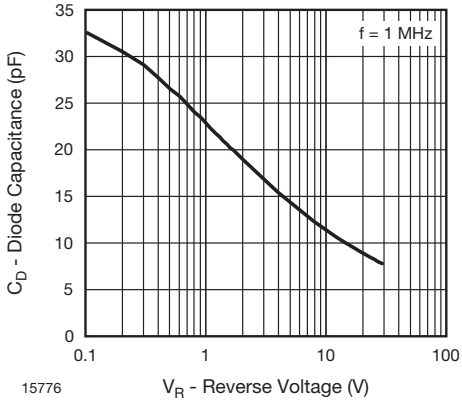
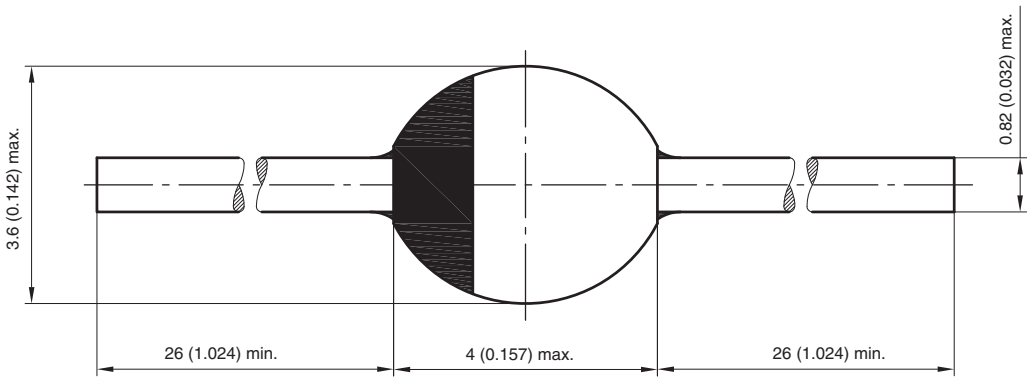


Fig. 6 - Typ. Diode Capacitance vs. Reverse Voltage

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



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Rev. 3 - Date: 09.February 2005
Document no.:6.563-5006.3-4

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