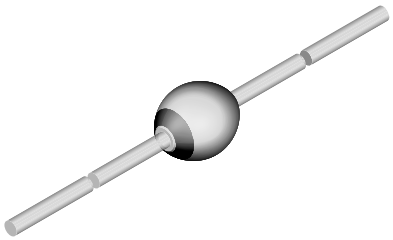
Standard Avalanche Sinterglass Diode



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FEATURES

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

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

- Rectification diode

ORDERING INFORMATION (Example)

DEVICE NAME	ORDERING CODE	TAPED UNITS	MINIMUM ORDER QUANTITY
BYT51M	BYT51M-TR	5000 per 10" tape and reel	25 000
BYT51M	BYT51M-TAP	5000 per ammopack	25 000

PARTS TABLE

PART	TYPE DIFFERENTIATION	PACKAGE
BYT51A	V_R = 50 V; $I_{F(AV)}$ = 1.5 A	SOD-57
BYT51B	V_R = 100 V; $I_{F(AV)}$ = 1.5 A	SOD-57
BYT51D	V_R = 200 V; $I_{F(AV)}$ = 1.5 A	SOD-57
BYT51G	V_R = 400 V; $I_{F(AV)}$ = 1.5 A	SOD-57
BYT51J	V_R = 600 V; $I_{F(AV)}$ = 1.5 A	SOD-57
BYT51K	V_R = 800 V; $I_{F(AV)}$ = 1.5 A	SOD-57
BYT51M	V_R = 1000 V; $I_{F(AV)}$ = 1.5 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	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 ms, half sine wave		I_{FSM}	50	A
Repetitive peak forward current			I_{FRM}	9	A
Average forward current	l = 10 mm		$I_{F(AV)}$	1.5	A
	On PC board		$I_{F(AV)}$	1	A
Junction and storage temperature range			$T_j = T_{stg}$	-55 to +175	°C
Non repetitive reverse avalanche energy	$I_{(BR)R}$ = 1 A		E_R	20	mJ

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	-	0.95	1.1	V
	I_F = 1 A, T_j = 175 °C	V_F	-	-	1	V
Reverse current	$V_R = V_{RRM}$	I_R	-	-	1	µA
	$V_R = V_{RRM}$, T_j = 150 °C	I_R	-	-	100	µA
Reverse recovery time	I_F = 0.5 A, I_R = 1 A, i_R = 0.25 A	t_{rr}	-	-	4	µs

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

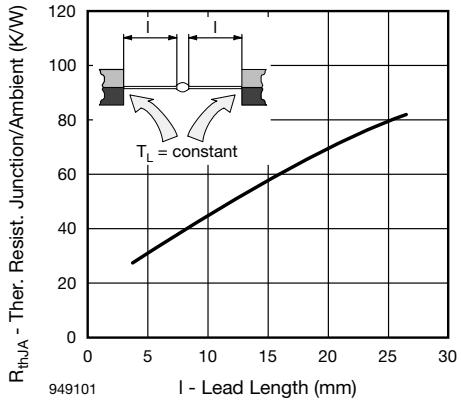


Fig. 1 - Typ. Thermal Resistance vs. Lead Length

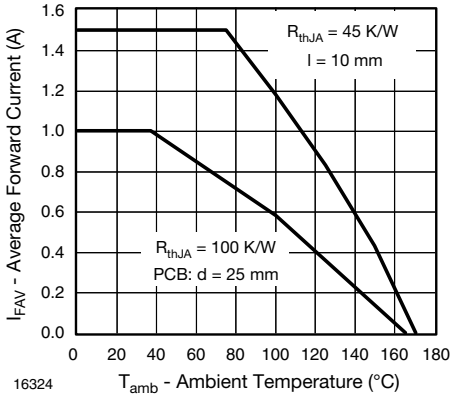


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

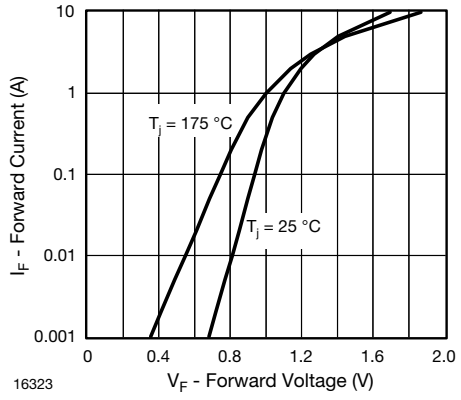


Fig. 2 - Forward Current vs. Forward Voltage

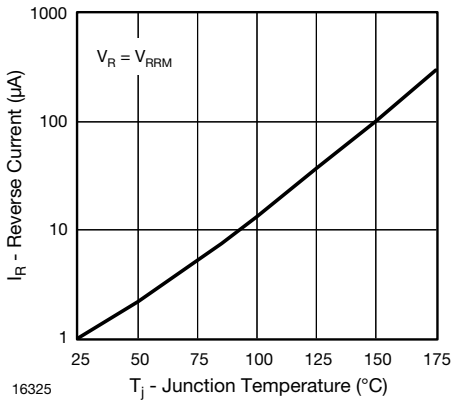


Fig. 4 - Reverse Current vs. Junction Temperature

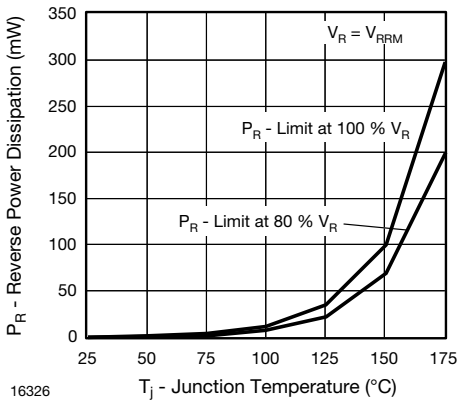


Fig. 5 - Max. Reverse Power Dissipation vs. Junction Temperature

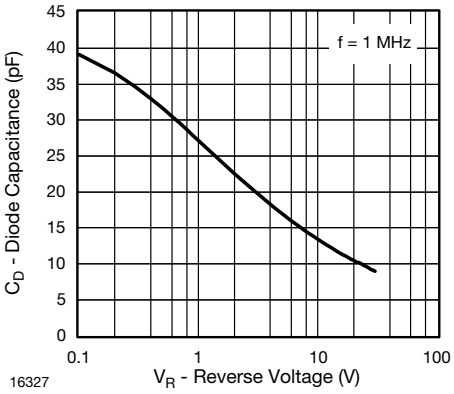
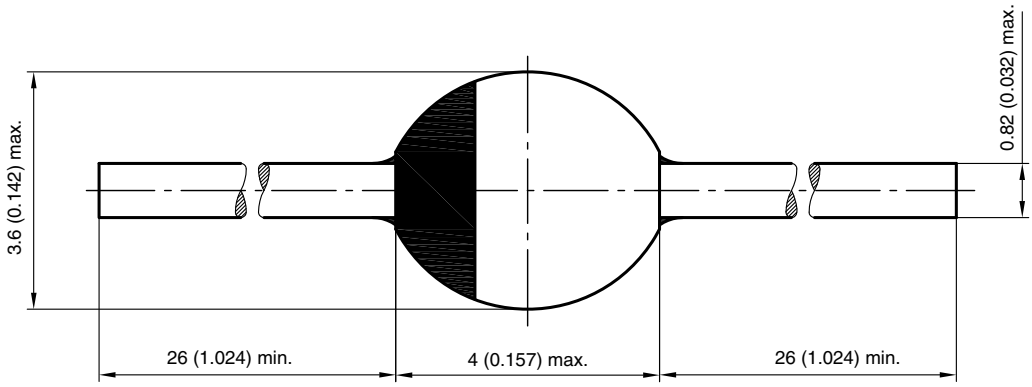


Fig. 6 - Diode Capacitance vs. Reverse Voltage

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



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