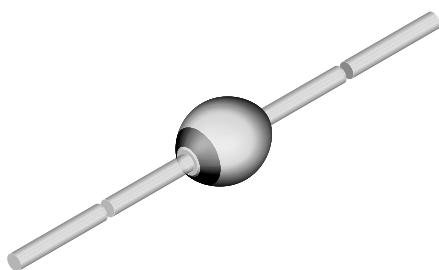


Fast Avalanche Sinterglass Diode



949539

FEATURES

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



RoHS
COMPLIANT
HALOGEN
FREE

APPLICATIONS

- Very fast rectification and switching diodes

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
BYT54M	BYT54M-TR	5000 per 10" tape and reel	25 000
BYT54M	BYT54M-TAP	5000 per ammopack	25 000

PARTS TABLE

PART	TYPE DIFFERENTIATION	PACKAGE
BYT54A	$V_R = 50 \text{ V}$; $I_{F(AV)} = 1.25 \text{ A}$	SOD-57
BYT54B	$V_R = 100 \text{ V}$; $I_{F(AV)} = 1.25 \text{ A}$	SOD-57
BYT54D	$V_R = 200 \text{ V}$; $I_{F(AV)} = 1.25 \text{ A}$	SOD-57
BYT54G	$V_R = 400 \text{ V}$; $I_{F(AV)} = 1.25 \text{ A}$	SOD-57
BYT54J	$V_R = 600 \text{ V}$; $I_{F(AV)} = 1.25 \text{ A}$	SOD-57
BYT54K	$V_R = 800 \text{ V}$; $I_{F(AV)} = 1.25 \text{ A}$	SOD-57
BYT54M	$V_R = 1000 \text{ V}$; $I_{F(AV)} = 1.25 \text{ A}$	SOD-57

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25 \text{ }^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Reverse voltage = repetitive peak reverse voltage	See electrical characteristics	BYT54A	$V_R = V_{RRM}$	50	V
		BYT54B	$V_R = V_{RRM}$	100	V
		BYT54D	$V_R = V_{RRM}$	200	V
		BYT54G	$V_R = V_{RRM}$	400	V
		BYT54J	$V_R = V_{RRM}$	600	V
		BYT54K	$V_R = V_{RRM}$	800	V
		BYT54M	$V_R = V_{RRM}$	1000	V
Peak forward surge current	$t_p = 10 \text{ ms}$, half sine wave		I_{FSM}	30	A
Average forward current	On PC board		$I_{F(AV)}$	0.75	A
	$I = 10 \text{ mm}$		$I_{F(AV)}$	1.25	A
Non repetitive reverse avalanche energy	$I_{(BR)R} = 0.4 \text{ A}$	BYT54J	E_R	10	mJ
		BYT54K	E_R	10	mJ
		BYT54M	E_R	10	mJ
Junction and storage temperature range			$T_j = T_{stg}$	- 55 to + 175	$^{\circ}\text{C}$

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	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 1 \text{ A}$		V_F	-	-	1.5	V
Reverse current	$V_R = V_{RRM}$		I_R	-	-	5	μA
Reverse recovery time	$V_R = V_{RRM}$, $T_j = 150 \text{ }^{\circ}\text{C}$		I_R	-	-	150	μA
	$I_F = 0.5 \text{ A}$, $I_R = 1 \text{ A}$, $i_R = 0.25 \text{ A}$		t_{rr}	-	-	100	ns

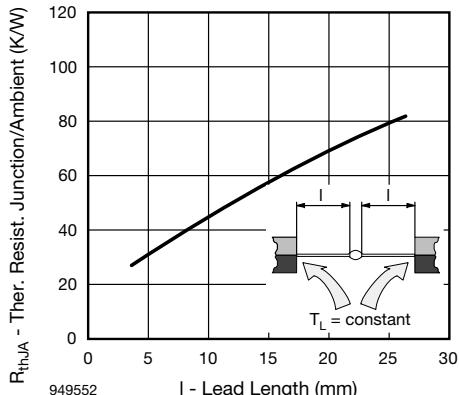
TYPICAL CHARACTERISTICS ($T_{amb} = 25 \text{ }^{\circ}\text{C}$, unless otherwise specified)


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

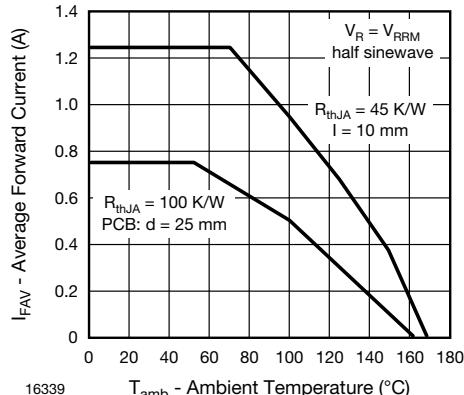


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

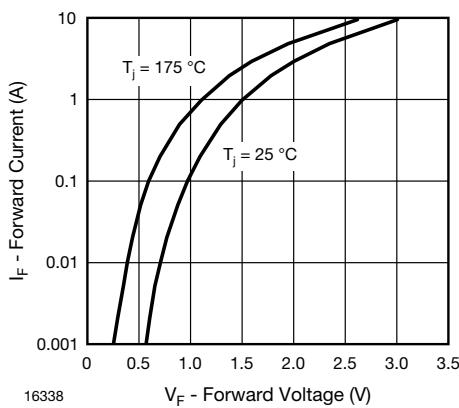


Fig. 2 - Forward Current vs. Forward Voltage

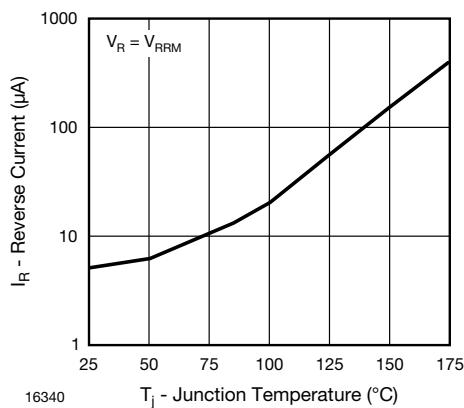


Fig. 4 - Max. Reverse Current vs. Junction Temperature

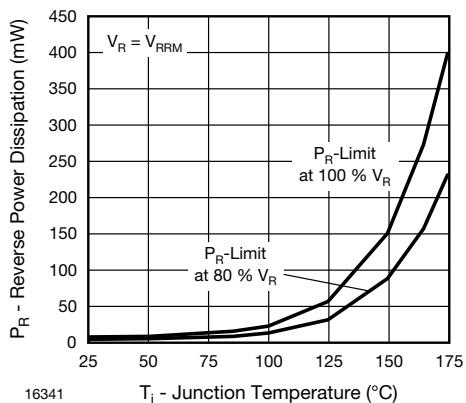


Fig. 5 - Max. Reverse Power Dissipation vs. Junction Temperature

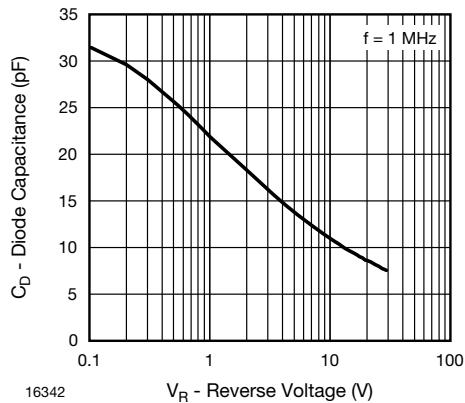
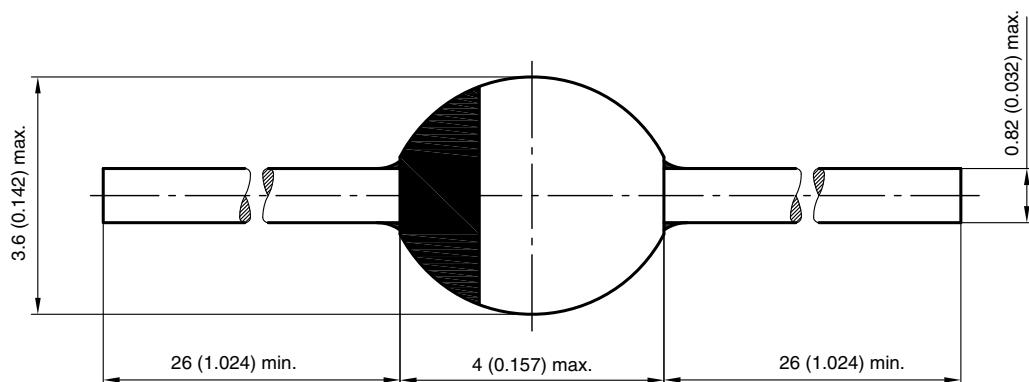


Fig. 6 - Diode Capacitance vs. Reverse Voltage

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



20543
 Rev. 3 - Date: 09.February 2005
 Document no.:6.563-5006.3-4

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