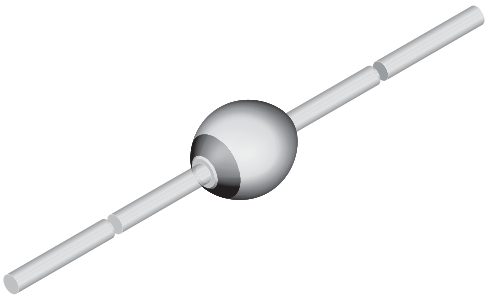
BYT54A, BYT54B, BYT54D, BYT54G, BYT54J, BYT54K, BYT54M

Fast Avalanche Sinterglass Diode



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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

Pb e2 RoHS COMPLIANT HALOGEN FREE

APPLICATIONS

- Very fast rectification and switching diodes

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**
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 V; $I_{F(AV)}$ = 1.25 A	SOD-57
BYT54B	V_R = 100 V; $I_{F(AV)}$ = 1.25 A	SOD-57
BYT54D	V_R = 200 V; $I_{F(AV)}$ = 1.25 A	SOD-57
BYT54G	V_R = 400 V; $I_{F(AV)}$ = 1.25 A	SOD-57
BYT54J	V_R = 600 V; $I_{F(AV)}$ = 1.25 A	SOD-57
BYT54K	V_R = 800 V; $I_{F(AV)}$ = 1.25 A	SOD-57
BYT54M	V_R = 1000 V; $I_{F(AV)}$ = 1.25 A	SOD-57

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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	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 ms, half sine wave		I_{FSM}	30	A
Average forward current	l = 10 mm		$I_{F(AV)}$	1.25	A
	On PC board		$I_{F(AV)}$	0.75	A
Non repetitive reverse avalanche energy	$I_{(BR)R}$ = 0.4 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	°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	-	-	1.5	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}	-	-	100	ns

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

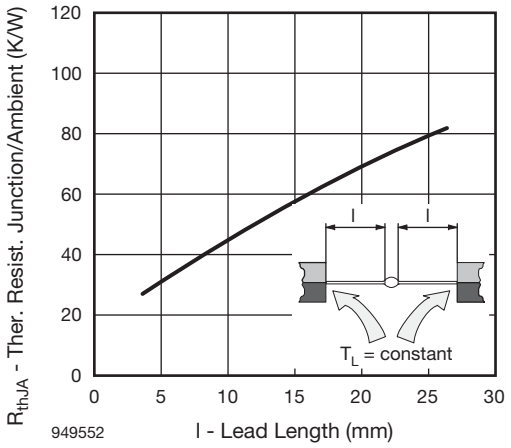

Fig. 1 - Max. Thermal Resistance vs. Lead Length

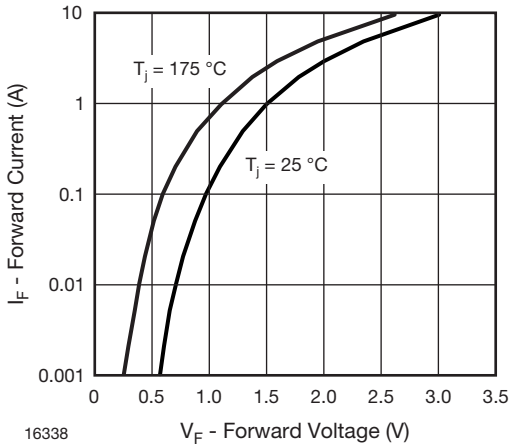

Fig. 2 - Forward Current vs. Forward Voltage

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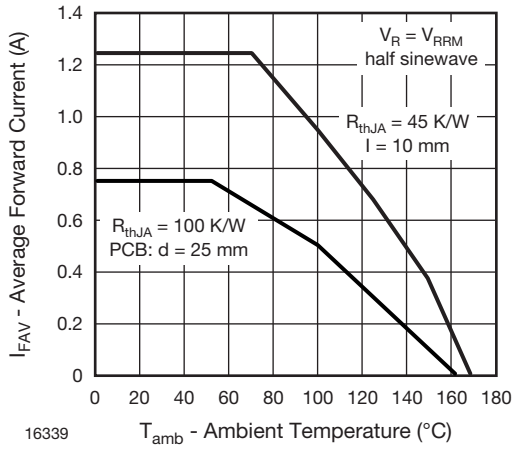


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

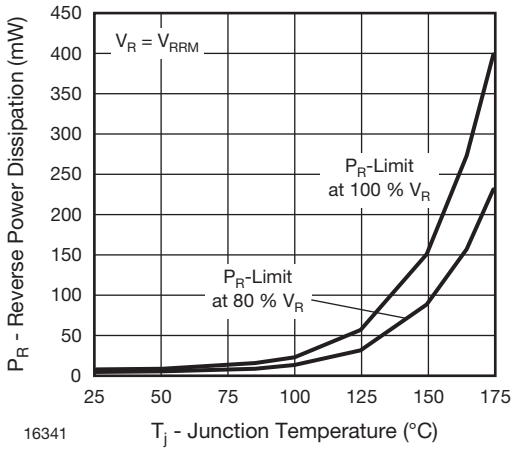


Fig. 5 - Max. Reverse Power Dissipation vs. Junction Temperature

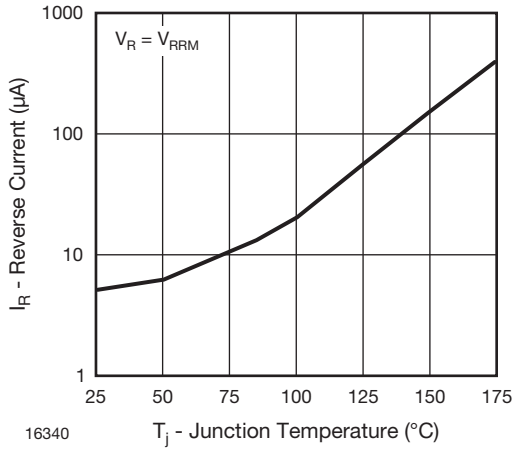


Fig. 4 - Max. Reverse Current vs. Junction Temperature

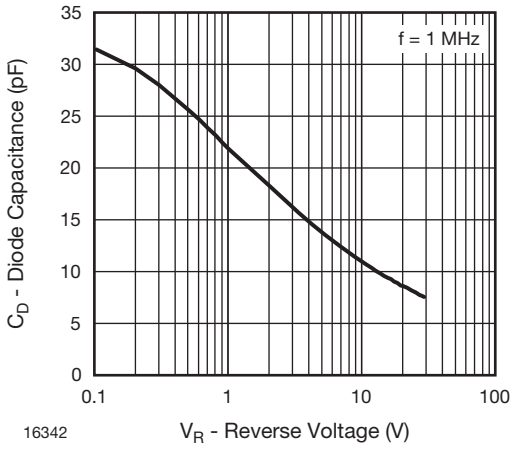
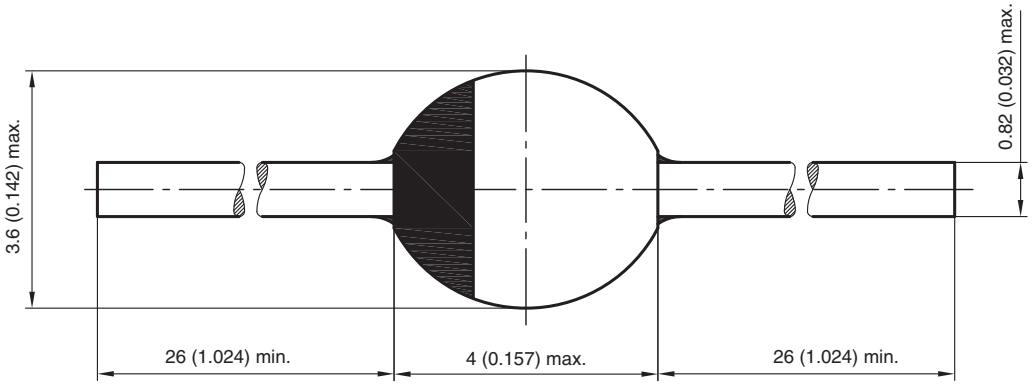


Fig. 6 - Diode Capacitance vs. Reverse Voltage

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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