

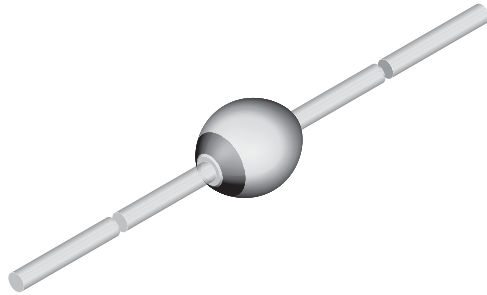


# THE DATASHEET OF BYT54G-TAP





# Fast Avalanche Sinterglass Diode



949539

### DESIGN SUPPORT TOOLS

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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](http://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 <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Reverse voltage = repetitive peak reverse voltage	See electrical characteristics	BYT54A	V <sub>R</sub> = V <sub>RRM</sub>	50	V
		BYT54B	V <sub>R</sub> = V <sub>RRM</sub>	100	V
		BYT54D	V <sub>R</sub> = V <sub>RRM</sub>	200	V
		BYT54G	V <sub>R</sub> = V <sub>RRM</sub>	400	V
		BYT54J	V <sub>R</sub> = V <sub>RRM</sub>	600	V
		BYT54K	V <sub>R</sub> = V <sub>RRM</sub>	800	V
		BYT54M	V <sub>R</sub> = V <sub>RRM</sub>	1000	V
Peak forward surge current	t <sub>p</sub> = 10 ms, half sine wave		I <sub>FSM</sub>	30	A
Average forward current	l = 10 mm		I <sub>F(AV)</sub>	1.25	A
	On PC board		I <sub>F(AV)</sub>	0.75	A
Non repetitive reverse avalanche energy	I <sub>(BR)R</sub> = 0.4 A	BYT54J	E <sub>R</sub>	10	mJ
		BYT54K	E <sub>R</sub>	10	mJ
		BYT54M	E <sub>R</sub>	10	mJ
Junction and storage temperature range			T <sub>j</sub> = T <sub>stg</sub>	-55 to +175	°C

MAXIMUM THERMAL RESISTANCE (T <sub>amb</sub> = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Junction ambient	Lead length l = 10 mm, T <sub>L</sub> = constant	R <sub>thJA</sub>	45	K/W
	On PC board with spacing 25 mm	R <sub>thJA</sub>	100	K/W

ELECTRICAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	I <sub>F</sub> = 1 A		V <sub>F</sub>	-	-	1.5	V
Reverse current	V <sub>R</sub> = V <sub>RRM</sub>		I <sub>R</sub>	-	-	5	μA
	V <sub>R</sub> = V <sub>RRM</sub> , T <sub>j</sub> = 150 °C		I <sub>R</sub>	-	-	150	μA
Reverse recovery time	I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1 A, i <sub>R</sub> = 0.25 A		t <sub>rr</sub>	-	-	100	ns

**TYPICAL CHARACTERISTICS** (T<sub>amb</sub> = 25 °C, unless otherwise specified)

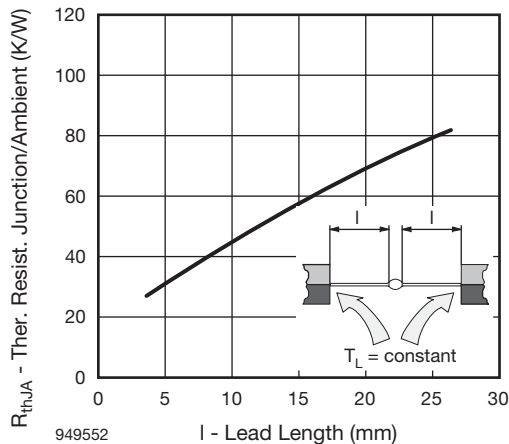


Fig. 1 - Max. Thermal Resistance vs. Lead Length

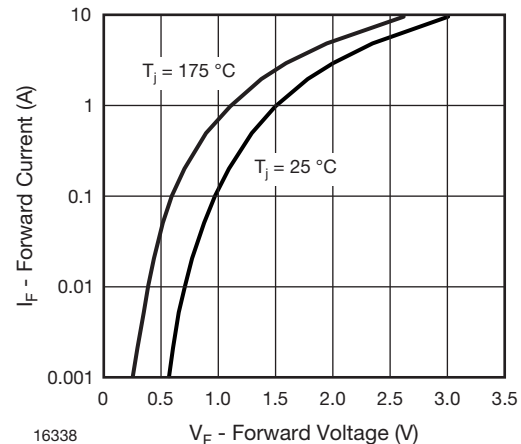


Fig. 2 - Forward Current vs. Forward Voltage

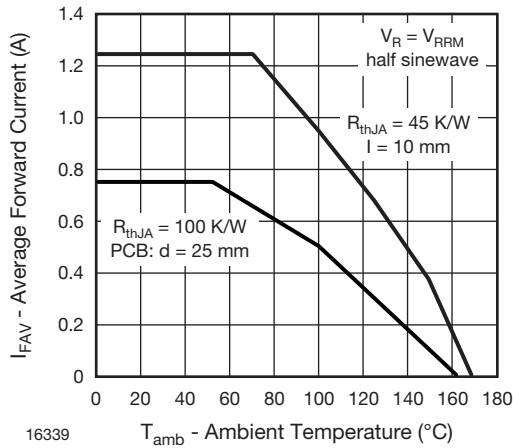


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

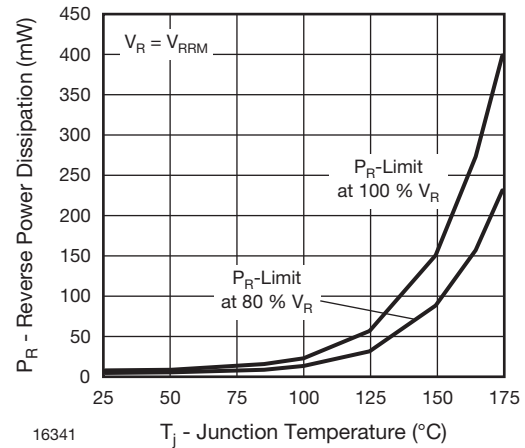


Fig. 5 - Max. Reverse Power Dissipation vs. Junction Temperature

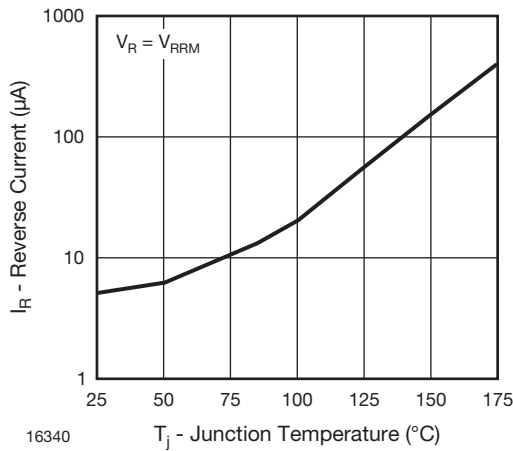


Fig. 4 - Max. Reverse Current vs. Junction Temperature

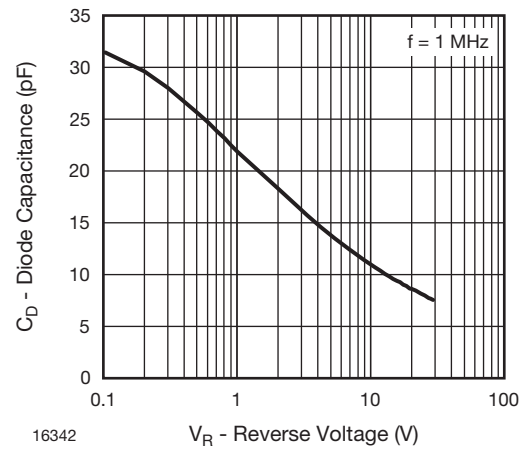
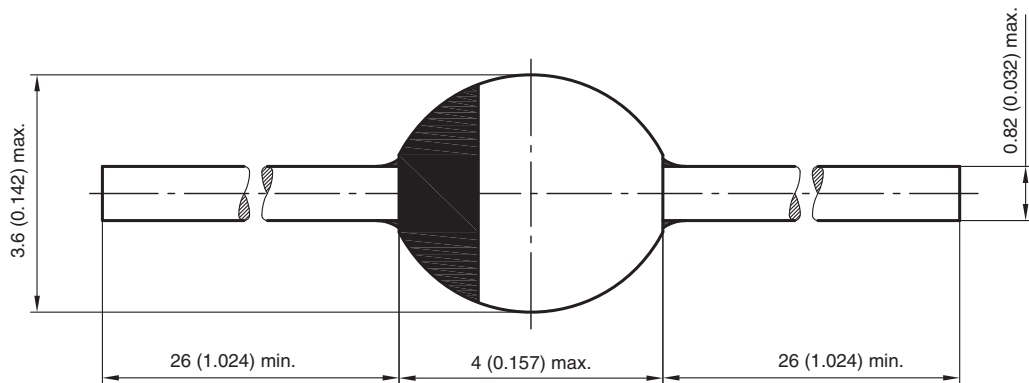


Fig. 6 - Diode Capacitance vs. Reverse Voltage

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



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