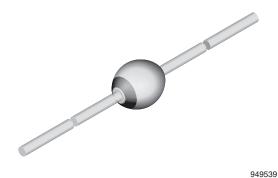
BYT54A, BYT54B, BYT54D, BYT54G, BYT54J, BYT54K, BYT54M



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# Fast Avalanche Sinterglass Diode



**FEATURES** 

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

#### **APPLICATIONS**

• Very fast rectification and switching diodes



#### **MECHANICAL DATA**

**DESIGN SUPPORT TOOLS** 

Case: SOD-57

**Terminals:** plated axial leads, solderable per MIL-STD-750, method 2026

click logo to get started

Polarity: color band denotes cathode end

#### Mounting position: any

Weight: approx. 369 mg

ORDERING INFORMATION (Example)					
DEVICE NAME	ME ORDERING CODE TAPED UNITS MINIMUM ORDER QU				
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 <sub>R</sub> = 50 V; I <sub>F(AV)</sub> = 1.25 A	SOD-57			
BYT54B	$V_{R} = 100 \text{ V}; \text{ I}_{F(AV)} = 1.25 \text{ A}$	SOD-57			
BYT54D	$V_{R} = 200 \text{ V}; \text{ I}_{F(AV)} = 1.25 \text{ A}$	SOD-57			
BYT54G	$V_{R} = 400 \text{ V}; \text{ I}_{F(AV)} = 1.25 \text{ A}$	SOD-57			
BYT54J	$V_{R} = 600 \text{ V}; \text{ I}_{F(AV)} = 1.25 \text{ A}$	SOD-57			
ВҮТ54К	$V_{R} = 800 \text{ V}; \text{ I}_{F(AV)} = 1.25 \text{ A}$	SOD-57			
BYT54M	$V_{R} = 1000 \text{ V}; I_{F(AV)} = 1.25 \text{ A}$	SOD-57			

(Pb) (e2) RoHS COMPLIANT BYT54A, BYT54B, BYT54D, BYT54G, BYT54J, BYT54K, BYT54M

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

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

<b>ELECTRICAL CHARACTERISTICS</b> (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	$V_{R} = V_{RRM}$		I <sub>R</sub>	-	-	5	μA
	$V_R = V_{RRM}, T_j = 150 \ ^\circ C$		I <sub>R</sub>	-	-	150	μA
Reverse recovery time	$I_F = 0.5 \text{ A}, I_R = 1 \text{ A}, i_R = 0.25 \text{ A}$		t <sub>rr</sub>	-	-	100	ns

#### TYPICAL CHARACTERISTICS (Tamb = 25 °C, unless otherwise specified)

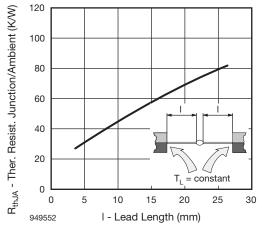


Fig. 1 - Max. Thermal Resistance vs. Lead Length

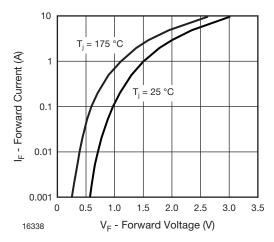


Fig. 2 - Forward Current vs. Forward Voltage

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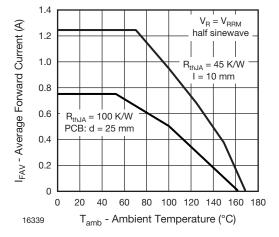
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# SHAY, BYT54A, BYT54B, BYT54D, BYT54G, BYT54J, BYT54K, BYT54M

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

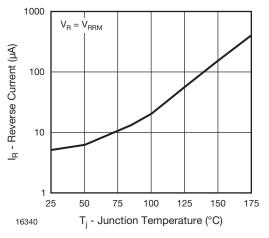


Fig. 4 - Max. Reverse Current vs. Junction Temperature

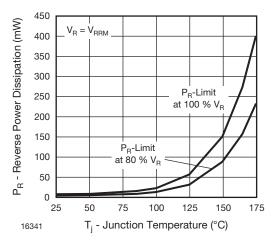


Fig. 5 - Max. Reverse Power Dissipation vs. Junction Temperature

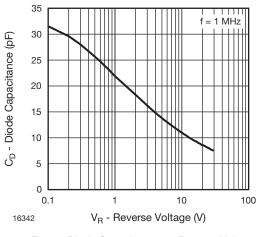
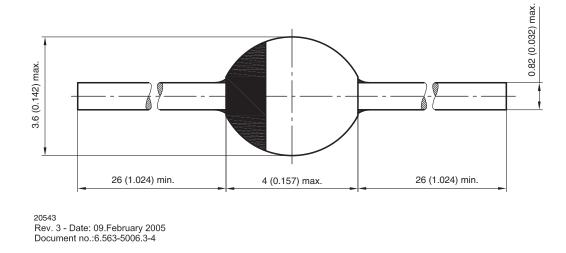


Fig. 6 - Diode Capacitance vs. Reverse Voltage

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



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