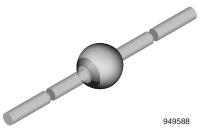
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## BYM36A, BYM36B, BYM36C, BYM36D, BYM36E

**Vishay Semiconductors** 

## Fast Avalanche Sinterglass Diode



#### **MECHANICAL DATA**

Case: SOD-64

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

Polarity: color band denotes cathode end

Mounting position: any

Weight: approx. 858 mg

#### FEATURES

- · Glass passivated
- Hermetically sealed package
- Very low switching losses
- Low reverse current
- High reverse voltage
- Material categorization: For definitions of compliance please see <u>www.vishay.com/doc?99912</u>

### **APPLICATIONS**

- Switched mode power supplies
- High-frequency inverter circuits

ORDERING INFORMATION (Example)					
DEVICE NAME ORDERING CODE TAPED UNITS MINIMUM ORDER QUAI					
BYM36E	BYM36E-TR	2500 per 10" tape and reel	12 500		
BYM36E	BYM36E-TAP	2500 per ammopack	12 500		

PARTS TABLE		
PART	TYPE DIFFERENTIATION	PACKAGE
BYM36A	V <sub>R</sub> = 200 V; I <sub>F(AV)</sub> = 3 A	SOD-64
BYM36B	V <sub>R</sub> = 400 V; I <sub>F(AV)</sub> = 3 A	SOD-64
BYM36C	V <sub>R</sub> = 600 V; I <sub>F(AV)</sub> = 3 A	SOD-64
BYM36D	V <sub>R</sub> = 800 V; I <sub>F(AV)</sub> = 2.9 A	SOD-64
BYM36E	V <sub>R</sub> = 1000 V; I <sub>F(AV)</sub> = 2.9 A	SOD-64

ABSOLUTE MAXIMUM RATINGS (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT	
	See electrical characteristics	BYM36A	$V_{R} = V_{RRM}$	200	V	
Deveryon velka se		BYM36B	$V_{R} = V_{RRM}$	400	V	
Reverse voltage = repetitive peak reverse voltage		BYM36C	$V_{R} = V_{RRM}$	600	V	
		BYM36D	$V_{R} = V_{RRM}$	800	V	
		BYM36E	$V_{R} = V_{RRM}$	1000	V	
Peak forward surge current	$t_p = 10$ ms, half sine wave		I <sub>FSM</sub>	65	А	
		BYM36A	I <sub>F(AV)</sub>	3	А	
		BYM36B	I <sub>F(AV)</sub>	3	А	
Average forward current		BYM36C	I <sub>F(AV)</sub>	3	А	
		BYM36D	I <sub>F(AV)</sub>	2.9	А	
		BYM36E	I <sub>F(AV)</sub>	2.9	А	
Non repetitive reverse avalanche energy	$I_{(BR)R} = 1$ A, inductive load		E <sub>R</sub>	20	mJ	
Junction and storage temperature range			$T_j = T_{stg}$	- 55 to + 175	°C	

<b>MAXIMUM THERMAL RESISTANCE</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION SYMBOL VALUE		VALUE	UNIT	
Junction ambient	Lead length I = 10 mm, T <sub>L</sub> = constant	R <sub>thJA</sub>	25	K/W	
	On PC board with spacing 25 mm	R <sub>thJA</sub>	70	K/W	

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### BYM36A, BYM36B, BYM36C, BYM36D, BYM36E

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PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
	I <sub>F</sub> = 3 A	BYM36A	V <sub>F</sub>	-	-	1.6	V
		BYM36B	V <sub>F</sub>	-	-	1.6	V
		BYM36C	V <sub>F</sub>	-	-	1.6	V
		BYM36D	V <sub>F</sub>	-	-	1.78	V
Forward voltage		BYM36E	V <sub>F</sub>	-	-	1.78	V
Forward voltage	I <sub>F</sub> = 3 A, T <sub>j</sub> = 175 °C	BYM36A	V <sub>F</sub>	-	-	1.22	V
		BYM36B	V <sub>F</sub>	-	-	1.22	V
		BYM36C	V <sub>F</sub>	-	-	1.22	V
		BYM36D	V <sub>F</sub>	-	-	1.28	V
		BYM36E	V <sub>F</sub>	-	-	1.28	V
	$V_{R} = V_{RRM}$		I <sub>R</sub>	-	-	5	μA
Reverse current	$V_{R} = V_{RRM}, T_{j} = 150 ^{\circ}\text{C}$		I <sub>R</sub>	-	100	100	μA
	I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1 A, i <sub>R</sub> = 0.25 A	BYM36A	t <sub>rr</sub>	-	-	100	ns
		BYM36B	t <sub>rr</sub>	-	-	100	ns
Reverse recovery time		BYM36C	t <sub>rr</sub>	-	-	100	ns
		BYM36D	t <sub>rr</sub>	-	-	150	ns
		BYM36E	t <sub>rr</sub>	-	-	150	ns
	I <sub>R</sub> = 100 μA	BYM36A	V <sub>(BR)R</sub>	300	-	-	V
		BYM36B	V <sub>(BR)R</sub>	500	-	-	V
Reverse breakdown voltage		BYM36C	V <sub>(BR)R</sub>	700	-	-	V
		BYM36D	V <sub>(BR)R</sub>	900	-	-	V
		BYM36E	V <sub>(BR)R</sub>	1100	-	-	V

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

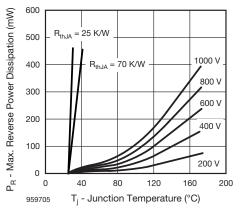


Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

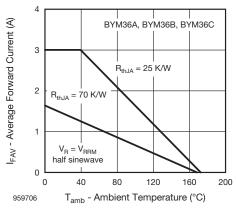


Fig. 2 - Max. Average Forward Current vs. Ambient Temperature

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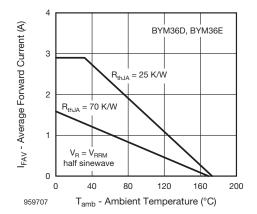


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

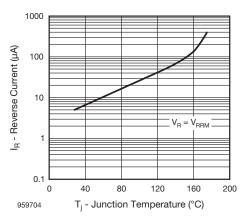
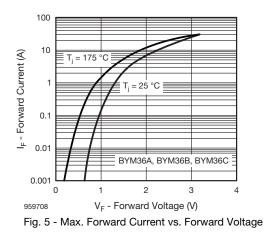


Fig. 4 - Max. Reverse Current vs. Junction Temperature



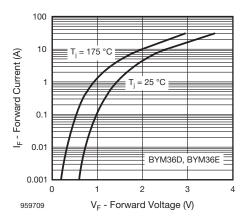


Fig. 6 - Max. Forward Current vs. Forward Voltage

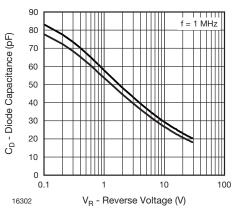


Fig. 7 - Diode Capacitance vs. Reverse Voltage

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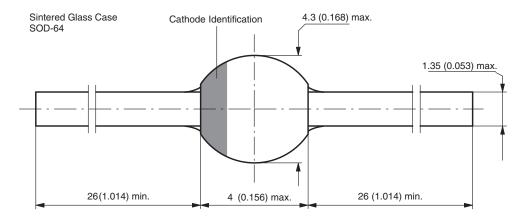
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### PACKAGE DIMENSIONS in millimeters (inches): SOD-64

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