

# BYV26A, BYV26B, BYV26C, BYV26D, BYV26E

**Vishay Semiconductors** 

# **Ultra-Fast Avalanche Sinterglass Diode**



## **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

### **FEATURES**

- Glass passivated junction
- 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 QUANTITY			
BYV26E	BYV26E-TR	5000 per 10" tape and reel	25 000			
BYV26E	BYV26E-TAP	5000 per ammopack	25 000			

PARTS TABLE		
PART	TYPE DIFFERENTIATION	PACKAGE
BYV26A	$V_{R} = 200 \text{ V}; \text{ I}_{F(AV)} = 1 \text{ A}$	SOD-57
BYV26B	$V_{R} = 400 \text{ V}; I_{F(AV)} = 1 \text{ A}$	SOD-57
BYV26C	$V_{R} = 600 \text{ V}; I_{F(AV)} = 1 \text{ A}$	SOD-57
BYV26D	V <sub>R</sub> = 800 V; I <sub>F(AV)</sub> = 1 A	SOD-57
BYV26E	V <sub>R</sub> = 1000 V; I <sub>F(AV)</sub> = 1 A	SOD-57

<b>ABSOLUTE MAXIMUM RATINGS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION PART		SYMBOL	VALUE	UNIT	
	See electrical characteristics	BYV26A	$V_{R} = V_{RRM}$	200	V	
		BYV26B	$V_{R} = V_{RRM}$	400	V	
Reverse voltage = repetitive peak reverse voltage		BYV26C	$V_{R} = V_{RRM}$	600	V	
Voltage		BYV26D	$V_{R} = V_{RRM}$	800	V	
		BYV26E	$V_{R} = V_{RRM}$	1000	V	
Peak forward surge current	t <sub>p</sub> = 10 ms, half sine wave		I <sub>FSM</sub>	30	А	
Average forward current			I <sub>F(AV)</sub>	1	А	
Non repetitive reverse avalanche energy	$I_{(BR)R} = 1$ A, inductive load		E <sub>R</sub>	10	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	UNIT		
Junction ambient	I = 10 mm, T <sub>L</sub> = constant	R <sub>thJA</sub>	45	K/W		

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<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>	-	-	2.5	V
	I <sub>F</sub> = 1 A, T <sub>j</sub> = 175 °C		V <sub>F</sub>	-	-	1.3	V
Reverse current	$V_{R} = V_{RRM}$		I <sub>R</sub>	-	-	5	μA
	V <sub>R</sub> = V <sub>RRM</sub> , T <sub>j</sub> = 150 °C		I <sub>R</sub>	-	-	100	μA
	I <sub>R</sub> = 100 μA	BYV26A	V <sub>(BR)R</sub>	300	-	-	V
		BYV26B	V <sub>(BR)R</sub>	500	-	-	V
Reverse breakdown voltage		BYV26C	V <sub>(BR)R</sub>	700	-	-	V
		BYV26D	V <sub>(BR)R</sub>	900	-	-	V
		BYV26E	V <sub>(BR)R</sub>	1100	-	-	V
	I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1 A, i <sub>R</sub> = 0.25 A	BYV26A	t <sub>rr</sub>	-	-	30	ns
		BYV26B	t <sub>rr</sub>	-	-	30	ns
Reverse recovery time		BYV26C	t <sub>rr</sub>	-	-	30	ns
		BYV26D	t <sub>rr</sub>	-	-	75	ns
		BYV26E	t <sub>rr</sub>	-	-	75	ns

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

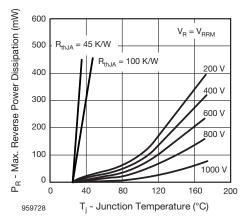


Fig. 1 - Max. Reverse Power Dissipation vs. Junction Temperature

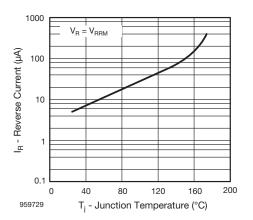


Fig. 2 - Max. Reverse Current vs. Junction Temperature

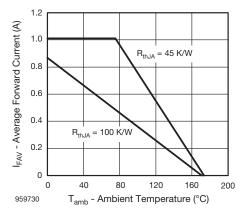


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

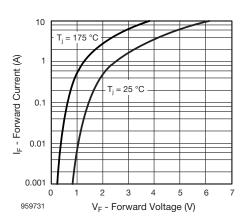


Fig. 4 - Max. Reverse Current vs. Junction Temperature

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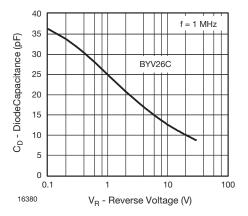


Fig. 5 - Diode Capacitance vs. Reverse Voltage

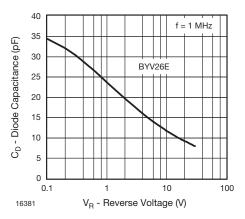
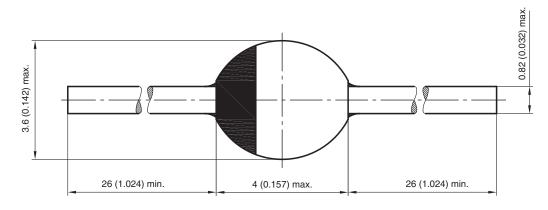


Fig. 6 - Diode Capacitance vs. Reverse Voltage

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



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