

### BY203-12S, BY203-16S, BY203-20S

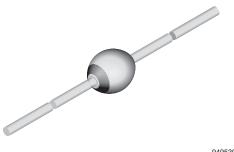
### Vishay Semiconductors

RoHS

COMPLIANT HALOGEN

FREE

## Fast Avalanche Sinterglass Diode



949539

#### **MECHANICAL DATA**

Case: SOD-57 sintered glass case

**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
- Material categorization: For definitions of compliance please see <u>www.vishay.com/doc?99912</u>

#### APPLICATIONS

• Fast rectification and switching avalanche sinterglass diode for TV-line output circuits an switch mode power supply

ORDERING INFORMATION (Example)					
DEVICE NAME	ORDERING CODE	ING CODE TAPED UNITS MINIMUM ORDER QUAN			
BY203-20S	BY203-20STR	5000 per 10" tape and reel	25 000		
BY203-20S	BY203-20STAP	5000 per ammopack	25 000		

PARTS TABLE					
PART	TYPE DIFFERENTIATION	PACKAGE			
BY203-12S	V <sub>R</sub> = 1200 V; I <sub>F(AV)</sub> = 250 mA	SOD-57			
BY203-16S	V <sub>R</sub> = 1600 V; I <sub>F(AV)</sub> = 250 mA	SOD-57			
BY203-20S	V <sub>R</sub> = 2000 V; I <sub>F(AV)</sub> = 250 mA	SOD-57			

<b>ABSOLUTE MAXIMUM RATINGS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT		
		BY203-12S	$V_{R} = V_{RRM}$	1200	V		
Reverse voltage = repetitive peak reverse voltage	l <sub>R</sub> = 100 μA	BY203-16S	$V_{R} = V_{RRM}$	1600	V		
Voltago		BY203-20S	$V_{R} = V_{RRM}$	2000	V		
Peak forward surge current	$t_p = 10 \text{ ms}$ , half sine wave		I <sub>FSM</sub>	20	А		
Average forward current			I <sub>F(AV)</sub>	250	mA		
Non repetitive reverse avalanche energy	$I_{(BR)R} = 0.4 A$		E <sub>R</sub>	10	mJ		
Junction temperature range			Тj	- 55 to + 150	°C		
Storage temperature range			T <sub>stg</sub>	- 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	Lead length I = 10 mm, $T_L$ = constant	R <sub>thJA</sub>	45	K/W		
	Maximum lead length	R <sub>thJA</sub>	100	K/W		

Rev. 1.9, 12-Sep-12

1



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ELECTRICAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 200 \text{ mA}, t_p/T = 0.01, t_p = 0.3 \text{ms}$		V <sub>F</sub>	-	-	2.4	V
Reverse current	V <sub>R</sub> = 700 V	BY203-12S	I <sub>R</sub>	-	-	2	μA
	V <sub>R</sub> = 1000 V	BY203-16S	I <sub>R</sub>	-	-	2	μA
	V <sub>R</sub> = 1200 V	BY203-20S	I <sub>R</sub>	-	-	2	μA
Breakdown voltage	$I_R = 100 \ \mu\text{A}, \ t_p/T = 0.01, \ t_p = 0.3 \ \text{ms}$	BY203-12S	V <sub>(BR)</sub>	1200	-	-	V
		BY203-16S	V <sub>(BR)</sub>	1600	-	-	V
		BY203-20S	V <sub>(BR)</sub>	2000	-	-	V
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>	-	-	300	ns

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

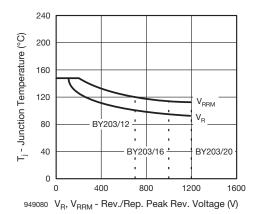


Fig. 1 - Junction Temperature vs. Reverse/Repetitive Peak Reverse Voltage

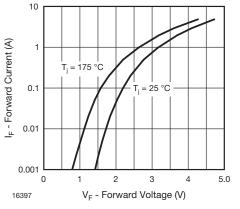


Fig. 2 - Max. Forward Current vs. Forward Voltage

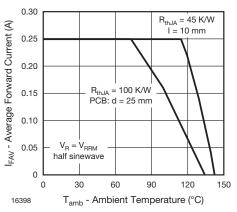


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

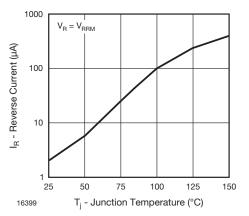


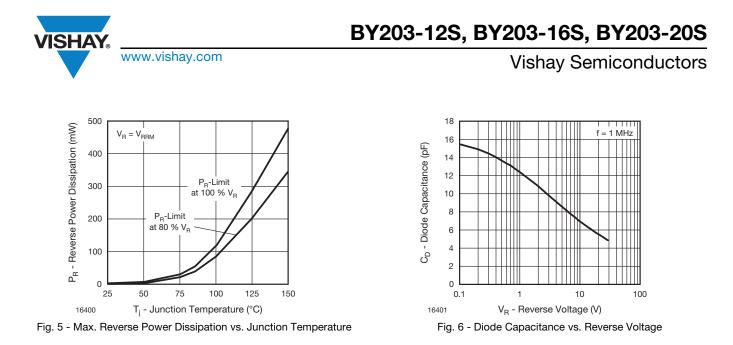
Fig. 4 - Max. Reverse Current vs. Junction Temperature

Rev. 1.9, 12-Sep-12

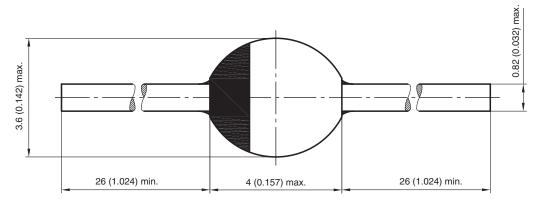
2

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



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