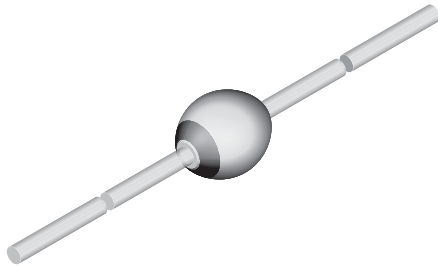




# Fast Avalanche Sinterglass Diode



949539

### FEATURES

- Glass passivated junction
- Hermetically sealed package
- Material categorization:  
For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS COMPLIANT HALOGEN FREE

### APPLICATIONS

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

### 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

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

PARTS TABLE		
PART	TYPE DIFFERENTIATION	PACKAGE
BY203-12S	$V_R = 1200\text{ V}; I_{F(AV)} = 250\text{ mA}$	SOD-57
BY203-16S	$V_R = 1600\text{ V}; I_{F(AV)} = 250\text{ mA}$	SOD-57
BY203-20S	$V_R = 2000\text{ V}; I_{F(AV)} = 250\text{ mA}$	SOD-57

ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25\text{ }^\circ\text{C}$ , unless otherwise specified)					
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Reverse voltage = repetitive peak reverse voltage	$I_R = 100\text{ }\mu\text{A}$	BY203-12S	$V_R = V_{RRM}$	1200	V
		BY203-16S	$V_R = V_{RRM}$	1600	V
		BY203-20S	$V_R = V_{RRM}$	2000	V
Peak forward surge current	$t_p = 10\text{ ms}$ , half sine wave		$I_{FSM}$	20	A
Average forward current			$I_{F(AV)}$	250	mA
Non repetitive reverse avalanche energy	$I_{(BR)R} = 0.4\text{ A}$		$E_R$	10	mJ
Junction temperature range			$T_j$	- 55 to + 150	$^\circ\text{C}$
Storage temperature range			$T_{stg}$	- 55 to + 175	$^\circ\text{C}$

MAXIMUM THERMAL RESISTANCE ( $T_{amb} = 25\text{ }^\circ\text{C}$ , unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Junction ambient	Lead length $l = 10\text{ mm}$ , $T_L = \text{constant}$	$R_{thJA}$	45	K/W
	Maximum lead length	$R_{thJA}$	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> = 200 mA, t <sub>p</sub> /T = 0.01, t <sub>p</sub> = 0.3ms		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 <sub>R</sub> = 100 μA, t <sub>p</sub> /T = 0.01, t <sub>p</sub> = 0.3 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)

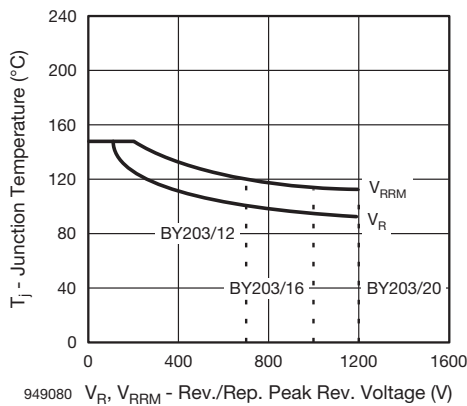


Fig. 1 - Junction Temperature vs. Reverse/Repetitive Peak Reverse Voltage

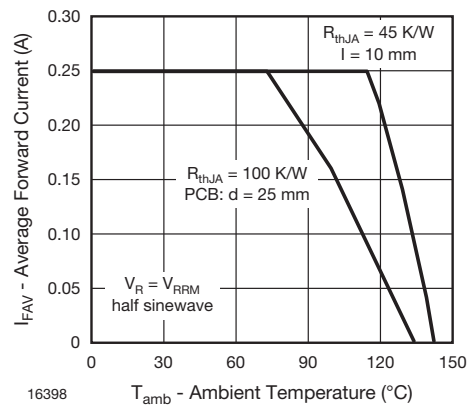


Fig. 3 - Max. Average Forward Current vs. Ambient Temperature

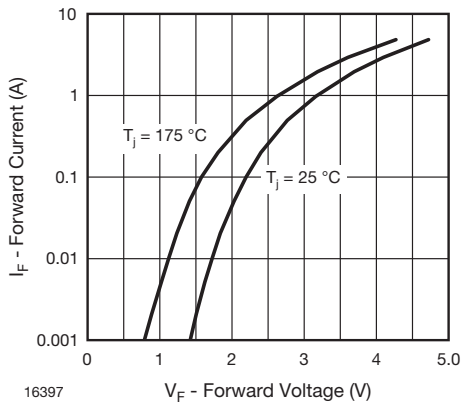


Fig. 2 - Max. Forward Current vs. Forward Voltage

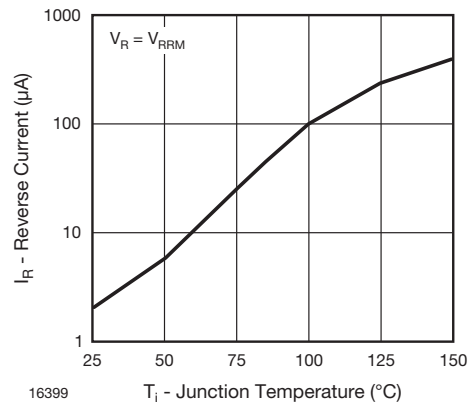


Fig. 4 - Max. Reverse Current vs. Junction Temperature

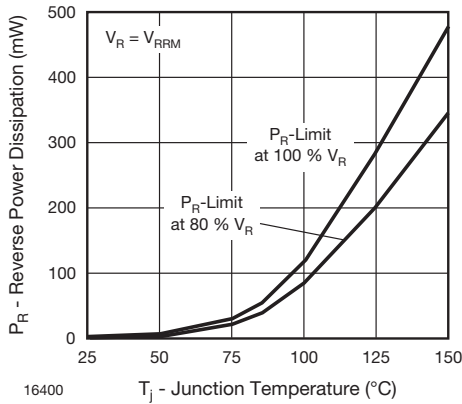


Fig. 5 - Max. Reverse Power Dissipation vs. Junction Temperature

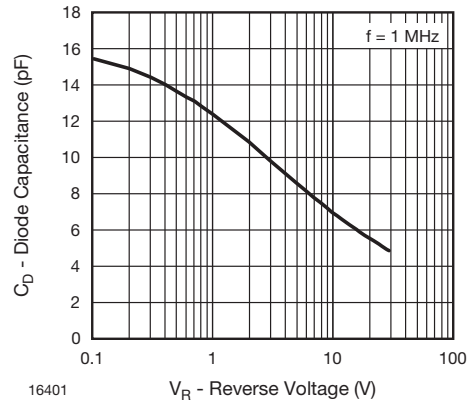
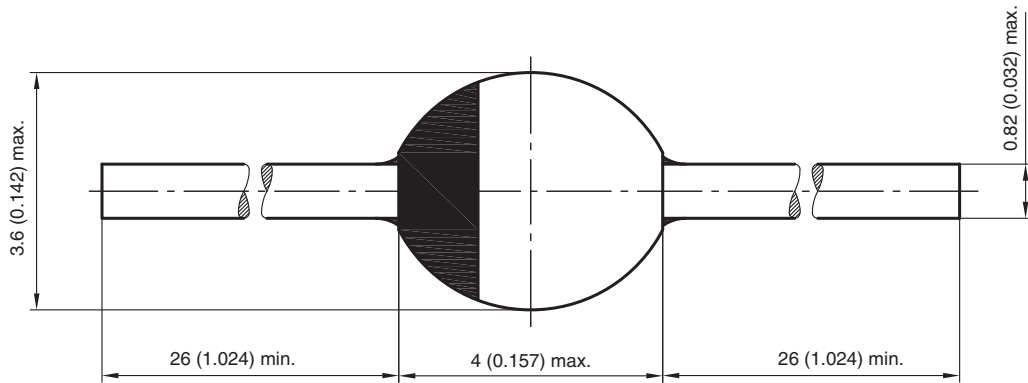


Fig. 6 - Diode Capacitance vs. Reverse Voltage

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



20543  
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