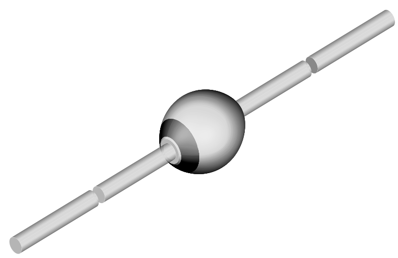
Fast Avalanche Sinterglass Diode

Features

- Glass passivated junction
- Hermetically sealed package
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC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Applications

Fast rectification and switching avalanche sinterglass diode for TV-line output circuits and 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

Parts Table

Part	Type differentiation	Package
BY203-12S	V_R = 1200 V; I_{FAV} = 250 mA	SOD-57
BY203-16S	V_R = 1600 V; I_{FAV} = 250 mA	SOD-57
BY203-20S	V_R = 2000 V; I_{FAV} = 250 mA	SOD-57

Absolute Maximum Ratings

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Part	Symbol	Value	Unit
Reverse voltage = Repetitive peak reverse voltage	I_R = 100 µA	BY203-12S	$V_R = V_{RRM}$	1200	V
		BY203-16S	$V_R = V_{RRM}$	1600	V
		BY203-20S	$V_R = V_{RRM}$	2000	V
Average forward current			I_{FAV}	250	mA
Peak forward surge current	t_p = 10 ms half sinewave		I_{FSM}	20	A
Junction temperature range			T_j	-55 to +150	°C
Storage temperature range			T_{stg}	-55 to +175	°C
Non repetitive reverse avalanche energy	$I_{(BR)R}$ = 0.4 A		E_R	10	mJ

Maximum Thermal Resistance

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Junction ambient	l = 10 mm, T_L = constant	R_{thJA}	45	K/W
	maximum lead length	R_{thJA}	100	K/W

Electrical Characteristics

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Part	Symbol	Min	Typ.	Max	Unit
Forward voltage	I_F = 200 mA, t_p/T = 0.01, t_p = 0.3 ms		V_F			2.4	V
Reverse current	V_R = 700 V	BY203-12S	I_R			2	μA
	V_R = 1000 V	BY203-16S	I_R			2	μA
	V_R = 1200 V	BY203-20S	I_R			2	μA
Breakdown voltage	I_R = 100 μA, t_p/T = 0.01, t_p = 0.3 ms	BY203-12S	$V_{(BR)}$	1200			V
		BY203-16S	$V_{(BR)}$	1600			V
		BY203-20S	$V_{(BR)}$	2000			V
Reverse recovery time	I_F = 0.5 A, I_R = 1 A, i_R = 0.25 A		t_{rr}			300	ns

Typical Characteristics (Tamb = 25 °C unless otherwise specified)

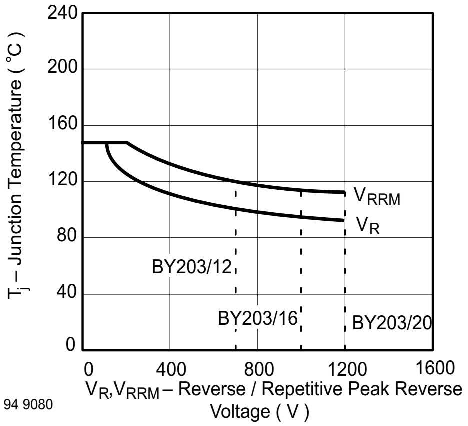


Figure 1. Junction Temperature vs. Reverse/Repetitive Peak Reverse Voltage

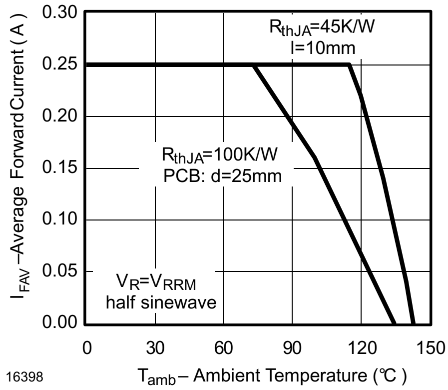


Figure 3. Max. Average Forward Current vs. Ambient Temperature

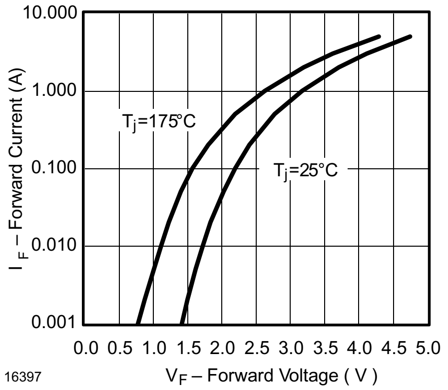


Figure 2. Forward Current vs. Forward Voltage

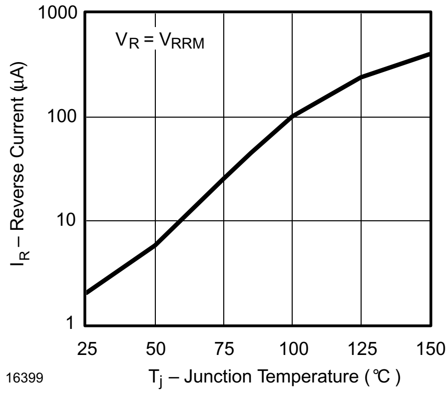


Figure 4. Reverse Current vs. Junction Temperature

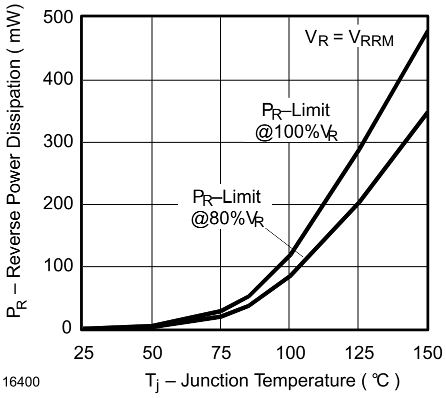


Figure 5. Max. Reverse Power Dissipation vs. Junction Temperature

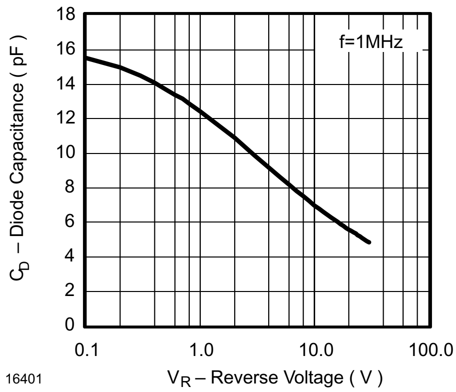
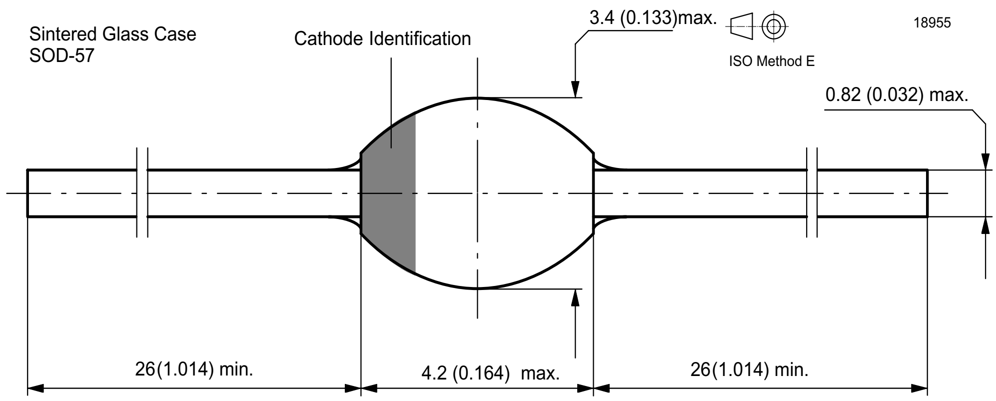


Figure 6. Diode Capacitance vs. Reverse Voltage

Package Dimensions in mm (Inches)



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It is the policy of Vishay Semiconductor GmbH to

1. Meet all present and future national and international statutory requirements.
2. Regularly and continuously improve the performance of our products, processes, distribution and operating systems with respect to their impact on the health and safety of our employees and the public, as well as their impact on the environment.

It is particular concern to control or eliminate releases of those substances into the atmosphere which are known as ozone depleting substances (ODSs).

The Montreal Protocol (1987) and its London Amendments (1990) intend to severely restrict the use of ODSs and forbid their use within the next ten years. Various national and international initiatives are pressing for an earlier ban on these substances.

Vishay Semiconductor GmbH has been able to use its policy of continuous improvements to eliminate the use of ODSs listed in the following documents.

1. Annex A, B and list of transitional substances of the Montreal Protocol and the London Amendments respectively
2. Class I and II ozone depleting substances in the Clean Air Act Amendments of 1990 by the Environmental Protection Agency (EPA) in the USA
3. Council Decision 88/540/EEC and 91/690/EEC Annex A, B and C (transitional substances) respectively.

Vishay Semiconductor GmbH can certify that our semiconductors are not manufactured with ozone depleting substances and do not contain such substances.

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