



# **Ultra Fast Avalanche Sinterglass Diode**

#### **Features**

- · High reverse voltage
- · Glass passivated
- · Low reverse current
- · Low forward voltage drop
- · Hermetically sealed axial-leaded glass envelope
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



Switched-mode power supplies High-frequency inverter circuits





#### **Mechanical Data**

Case: SOD-64 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. 858 mg

## **Parts Table**

Part	Type differentiation	Package
BYV98-50	$V_{R} = 50 \text{ V}; I_{FAV} = 4 \text{ A}$	SOD-64
BYV98-100	V <sub>R</sub> = 100 V; I <sub>FAV</sub> = 4 A	SOD-64
BYV98-150	V <sub>R</sub> = 150 V; I <sub>FAV</sub> = 4 A	SOD-64
BYV98-200	V <sub>R</sub> = 200 V; I <sub>FAV</sub> = 4 A	SOD-64

### **Absolute Maximum Ratings**

T<sub>amb</sub> = 25 °C, unless otherwise specified

Parameter	Test condition	Part	Symbol	Value	Unit
Reverse voltage = Repetitive peak reverse voltage	see electrical characteristics	BYV98-50	$V_R = V_{RRM}$	50	V
		BYV98-100	$V_R = V_{RRM}$	100	V
		BYV98-150	$V_R = V_{RRM}$	150	V
		BYV98-200	$V_R = V_{RRM}$	200	V
Peak forward surge current	t <sub>p</sub> = 10 ms, half-sinewave		I <sub>FSM</sub>	70	Α
Average forward current	T <sub>amb</sub> = 30 °C, I = 10 mm		I <sub>FAV</sub>	4	Α
Junction and storage temperature range			$T_j = T_{stg}$	- 55 to + 175	°C
Non repetitive reverse avalanche energy	I <sub>(BR)R</sub> = 1 A		E <sub>R</sub>	20	mJ

### **Maximum Thermal Resistance**

T<sub>amb</sub> = 25 °C, unless otherwise specified

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Parameter	Test condition	Symbol	Value	Unit
Junction ambient	Lead length I = 10 mm, T <sub>L</sub> = constant	R <sub>thJA</sub>	25	K/W

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Rev. 1.6, 14-Apr-05

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#### **Electrical Characteristics**

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

Parameter	Test condition	Part	Symbol	Min	Тур.	Max	Unit
Forward voltage	I <sub>F</sub> = 5 A		V <sub>F</sub>			1.1	V
Reverse current	$V_R = V_{RRM}$		I <sub>R</sub>			10	μА
	$V_R = V_{RRM}, T_j = 150 ^{\circ}C$		I <sub>R</sub>			200	μΑ
Reverse breakdown voltage	I <sub>R</sub> = 100 μA	BYV98-50	V <sub>(BR)R</sub>	60			V
		BYV98-100	V <sub>(BR)R</sub>	120			V
		BYV98-150	V <sub>(BR)R</sub>	170			V
		BYV98-200	$V_{(BR)R}$	220			V
Reverse recovery time	$I_F = 0.5 \text{ A}, I_R = 1 \text{ A}, I_R = 0.25 \text{ A}$		t <sub>rr</sub>			35	ns

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

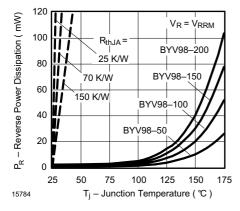


Figure 1. Max. Reverse Power Dissipation vs. Junction Temperature

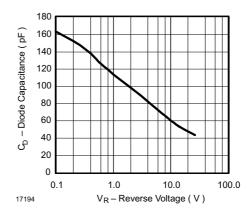


Figure 3. Diode Capacitance vs. Reverse Voltage

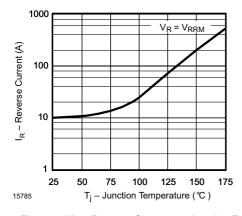


Figure 2. Max. Reverse Current vs. Junction Temperature

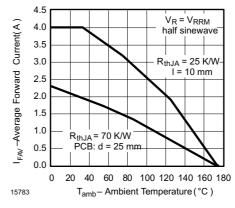


Figure 4. Max. Average Forward Current vs. Ambient Temperature





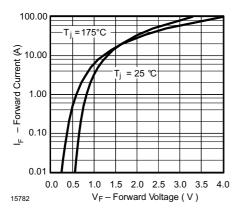
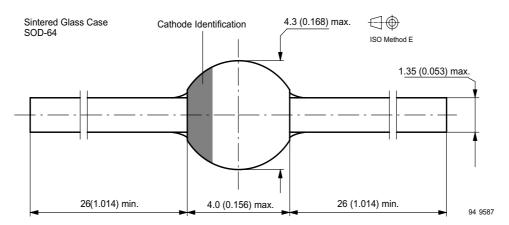


Figure 5. Max. Forward Current vs. Forward Voltage

## **Package Dimensions in mm (Inches)**



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## **Ozone Depleting Substances Policy Statement**

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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www.vishay.com Document Number 86046 Rev. 1.6, 14-Apr-05

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