

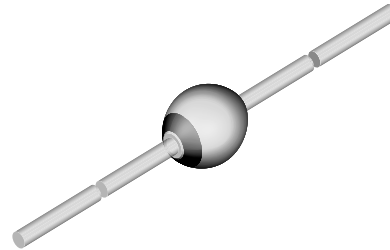
## Fast Avalanche Sinterglass Diode

### Features

- Glass passivated junction
- Hermetically sealed package
- Low reverse current
- Soft recovery characteristics

### Applications

Fast "soft recovery" rectification diode



949539

### Mechanical Data

**Case:** Sintered glass case, SOD 57

**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026

**Mounting Position:** Any

**Weight:** 370 mg, (max. 500 mg)

**Polarity:** Color band denotes cathode end

### Parts Table

Part	Type differentiation	Package
BYV37	$V_R = 800\text{ V}$ ; $I_{FAV} = 2\text{ A}$	SOD57
BYV38	$V_R = 1000\text{ V}$ ; $I_{FAV} = 2\text{ A}$	SOD57

### Absolute Maximum Ratings

$T_{amb} = 25\text{ }^\circ\text{C}$ , unless otherwise specified

Parameter	Test condition	Sub type	Symbol	Value	Unit
Reverse voltage	see electrical characteristics	BYV37	$V_R = V_{RRM}$	800	V
	see electrical characteristics	BYV38	$V_R = V_{RRM}$	1000	V
Peak forward surge current	$t_p = 10\text{ ms}$ , half sinewave		$I_{FSM}$	50	A
Average forward current			$I_{FAV}$	2	A
Junction and storage temperature range			$T_j = T_{stg}$	-55 to +175	$^\circ\text{C}$
Non repetitive reverse avalanche energy	$I_{(BR)R} = 0.4\text{ A}$		$E_R$	10	mJ

### Maximum Thermal Resistance

$T_{amb} = 25\text{ }^\circ\text{C}$ , unless otherwise specified

Parameter	Test condition	Sub type	Symbol	Value	Unit
Junction ambient	$l = 10\text{ mm}$ , $T_L = \text{constant}$		$R_{thJA}$	45	K/W
	on PC board with spacing 25 mm		$R_{thJA}$	100	K/W

### Electrical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified

Parameter	Test condition	Sub type	Symbol	Min	Typ.	Max	Unit
Forward voltage	$I_F = 1\text{ A}$		$V_F$		1.0	1.1	V
Reverse current	$V_R = V_{RRM}$		$I_R$			5	$\mu\text{A}$
	$V_R = V_{RRM}; T_j = 150\text{ }^{\circ}\text{C}$		$I_R$			150	$\mu\text{A}$
Reverse recovery time	$I_F = 0.5\text{ A}, I_R = 1\text{ A}, i_R = 0.25\text{ A}$		$t_{rr}$			300	ns
Diode Capacitance	$V_R = 4\text{ V}, f = 1\text{ MHz}$		$C_D$		15		pF

### Typical Characteristics ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

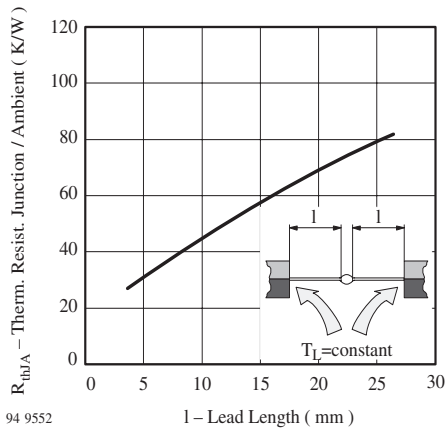


Figure 1. Max. Thermal Resistance vs. Lead Length

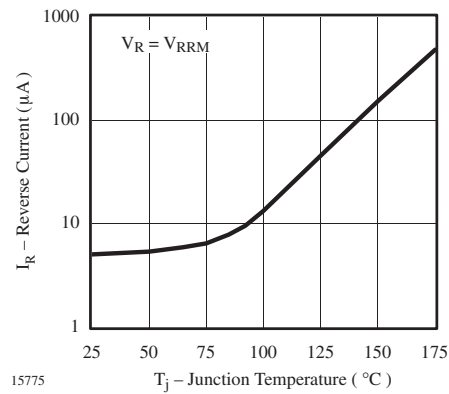


Figure 3. Max. Reverse Current vs. Junction Temperature

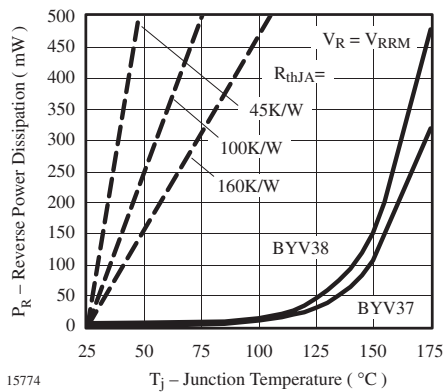


Figure 2. Max. Reverse Power Dissipation vs. Junction Temperature

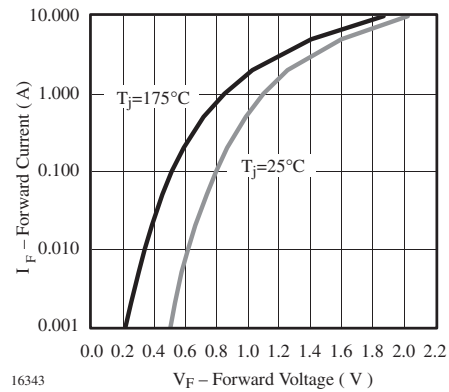


Figure 4. Forward Current vs. Forward Voltage

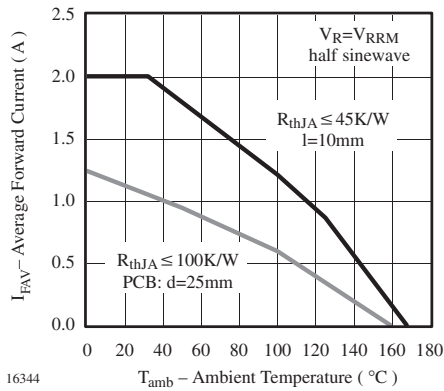


Figure 5. Max. Average Forward Current vs. Ambient Temperature

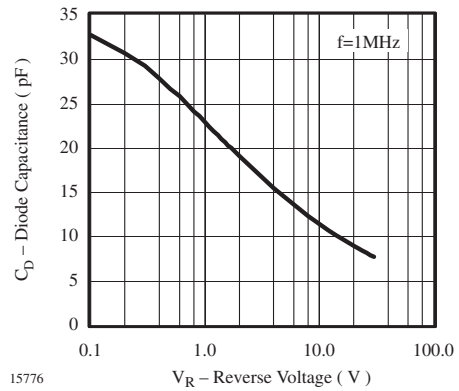
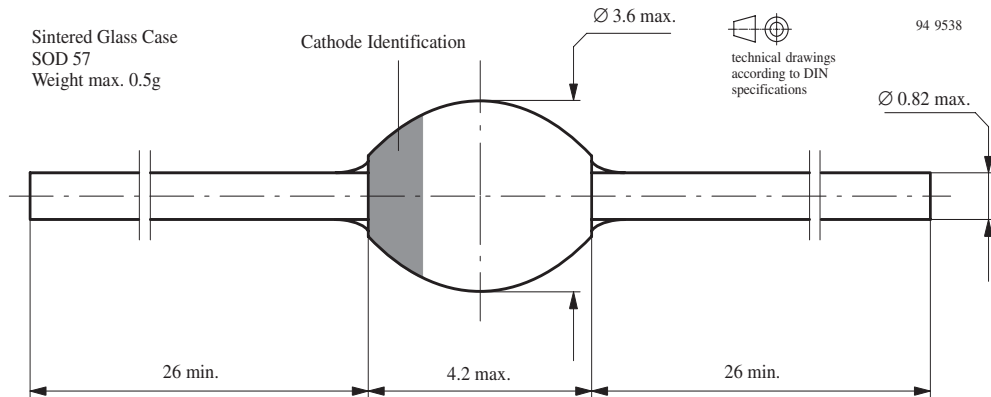


Figure 6. Typ. Diode Capacitance vs. Reverse Voltage

## Package Dimensions in mm



### 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.

**We reserve the right to make changes to improve technical design  
and may do so without further notice.**

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Vishay Semiconductor GmbH, P.O.B. 3535, D-74025 Heilbronn, Germany  
Telephone: 49 (0)7131 67 2831, Fax number: 49 (0)7131 67 2423



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