

Small Signal Schottky Diode

Features

- Integrated protection ring against static discharge
- Very low forward voltage
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

Applications

Applications where a very low forward voltage is required

Mechanical Data

Case: MicroMELF Glass case Weight: approx. 12 mg Cathode Band Color: Black Packaging Codes/Options: TR3 / 10 k per 13" reel (8 mm tape), 10 k/box

TR / 2.5 k per 7" reel (8 mm tape), 12.5 k/box

Parts Table

Part	Type differentiation	Ordering code	Remarks	
BAS386	V _R = 50 V	BAS386-TR3 or BAS386-TR	Tape and Reel	

Absolute Maximum Ratings

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

Parameter	Test condition	Symbol	Value	Unit	
Reverse voltage		V _R	50	V	
Peak forward surge current	t _p = 10 ms	I _{FSM}	5	A	
Repetitive peak forward current	$t_p \le 1 s$	I _{FRM}	500	mA	
Forward continuous current		١ _F	200	mA	
Average forward current		I _{FAV}	200	mA	

Thermal Characteristics

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

Parameter	Test condition	Symbol	Value	Unit
Junction to ambient air	on PC board 50 mm x 50 mm x 1.6 mm	R _{thJA}	320	K/W
Junction temperature		Tj	125	°C
Storage temperature range		T _{stg}	- 65 to + 150	°C

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Electrical Characteristics

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

Parameter	Test condition	Symbol	Min	Тур.	Max	Unit
Forward voltage	I _F = 0.1 mA	V _F			300	mV
	I _F = 1 mA	V _F			380	mV
	I _F = 10 mA	V _F			450	mV
	I _F = 30 mA	V _F			600	mV
	I _F = 100 mA	V _F			900	mV
Reverse current	V _R = 40 V	I _R			5	μA
Diode capacitance	V _R = 1 V, f = 1 MHz	CD			8	pF

Typical Characteristics

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

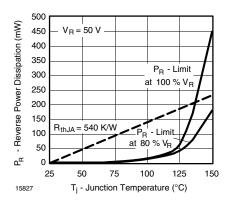


Figure 1. Max. Reverse Power Dissipation vs. Junction Temperature

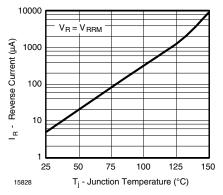


Figure 2. Reverse Current vs. Junction Temperature

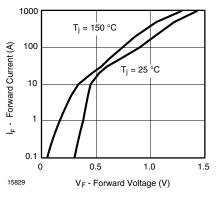


Figure 3. Forward Current vs. Forward Voltage

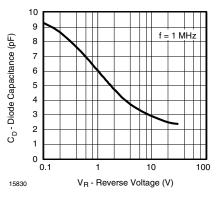


Figure 4. Diode Capacitance vs. Reverse Voltage



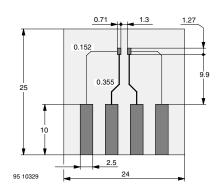


Figure 5. Board for R_{thJA} definition (in mm)

surface plan ,35 (0.053) Cathode indification Glass case MicroMELF 1 (0.039) surface plan G1855 1.2 (0.047) 1.1 (0.043) (0.024) 0.6 \bigoplus \in 0.25 (0.010) 0.15 (0.006) > R 2.5 (R 0.098) 2.0 (0.079) ISO Method E Glass 1.8 (0.071) Wave Soldering **Reflow Soldering** 1.2 (0.047) 1.4 (0.055) 0.8 (0.031) 0.8 (0.031) 0.9 (0.035) 0.9 (0.035) 1.0 (0.039) 0.8 (0.031) 2.4 (0.094) 2.8 (0.110) Document No.: 6.560-5007.01-4 Rev. 11, 07.Feb.2005

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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Vishay Semiconductor GmbH, P.O.B. 3535, D-74025 Heilbronn, Germany



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