

**Vishay Semiconductors** 

## **Small Signal Schottky Diodes, Single & Dual**

#### **Features**

- These diodes feature very low turn-on voltage and fast switching
- These devices are protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges



 Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC





RoHS

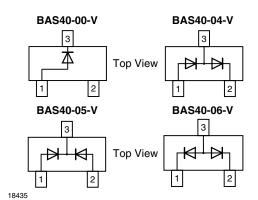


Case: SOT-23

Weight: approx. 8.8 mg
Packaging Codes/Options:

GS18 / 10 k per 13" reel (8 mm tape), 10 k/box GS08 / 3 k per 7" reel (8 mm tape), 15 k/box





#### **Parts Table**

Part	Ordering code	Type Marking	Remarks
BAS40-00-V	BAS40-00-V-GS18 or BAS40-00-V-GS08	43	Tape and Reel
BAS40-04-V	BAS40-04-V-GS18 or BAS40-04-V-GS08	44	Tape and Reel
BAS40-05-V	BAS40-05-V-GS18 or BAS40-05-V-GS08	45	Tape and Reel
BAS40-06-V	BAS40-06-V-GS18 or BAS40-06-V-GS08	46	Tape and Reel

#### **Absolute Maximum Ratings**

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

Parameter	Test condition	Symbol	Value	Unit
Repetitive peak reverse voltage		$V_{RRM} = V_{RWM} = V_{R}$	40	V
Forward continuous current		I <sub>F</sub>	200 <sup>1)</sup>	mA
Surge forward current	t <sub>p</sub> < 1 s	I <sub>FSM</sub>	600 <sup>1)</sup>	mA
Power dissipation <sup>1)</sup>		P <sub>tot</sub>	200 <sup>1)</sup>	mW

<sup>1)</sup> Device on fiberglass substrate, see layout on next page.

# BAS40-00-V to BAS40-06-V

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#### **Thermal Characteristics**

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

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		$R_{thJA}$	500 <sup>1)</sup>	K/W
Junction temperature		T <sub>j</sub>	125	°C
Storage temperature range		T <sub>stg</sub>	- 65 to + 150	°C

<sup>1)</sup> Device on fiberglass substrate, see layout on next page.

#### **Electrical Characteristics**

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

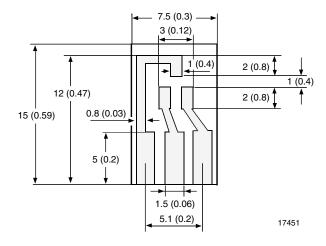
Parameter	Test condition	Symbol	Min	Тур.	Max	Unit
Reverse breakdown voltage	$I_R = 10 \mu A \text{ (pulsed)}$	V <sub>(BR)</sub>	40			V
Leakage current	Pulse test $V_R = 30 \text{ V}, t_p < 300 \mu\text{s}$	I <sub>R</sub>		20	100	nA
Forward voltage	Pulse test $t_p < 300 \mu s$ , $I_F = 1 \text{ mA}$	V <sub>F</sub>			380	mV
	Pulse test $t_p < 300 \mu s$ , $I_F = 40 \text{ mA}$	V <sub>F</sub>			1000	mV
Diode capacitance	V <sub>R</sub> = 0 V, f = 1 MHz	C <sub>D</sub>		4	5	pF
Reverse recovery time	$I_F = I_R = 10 \text{ mA}, i_R = 1 \text{ mA},$ $R_L = 100 \Omega$	t <sub>rr</sub>			5	ns

## Layout for $R_{thJA}$ test

Thickness:

Fiberglass 1.5 mm (0.059 in.)

Copper leads 0.3 mm (0.012 in.)

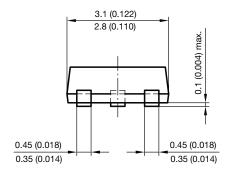


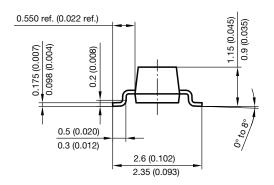


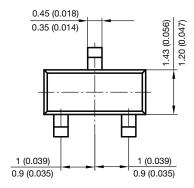


## **Vishay Semiconductors**

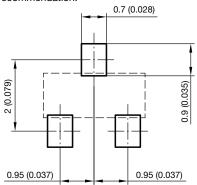
### Package Dimensions in millimeters (inches): SOT-23







Foot print recommendation:

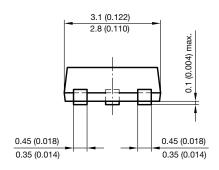


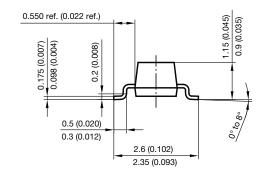
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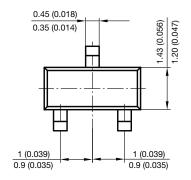
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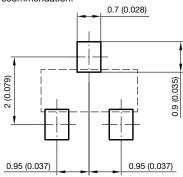
#### **PACKAGE DIMENSIONS** in millimeters (inches)







Foot print recommendation:



Document no.: 6.541-5014.01-4 Rev. 8 - Date: 23.Sept.2009

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