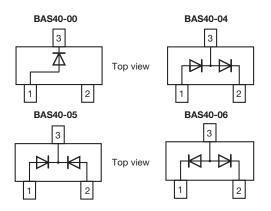


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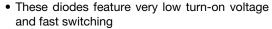
## Vishay Semiconductors

# Small Signal Schottky Diodes, Single and Dual





#### **FEATURES**





 These devices are protected by a PN junction guardring against excessive voltage, such as electrostatic discharges



RoHS

- AEC-Q101 qualified available
- Base P/N-E3 RoHS-compliant, commercial grade
- Base P/N-HE3 RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

#### **MECHANICAL DATA**

Case: SOT-23

Weight: approx. 8.8 mg

Packaging codes/options:

18/10K per 13" reel (8 mm tape), 10K/box 08/3K per 7" reel (8 mm tape), 15K/box

### **DESIGN SUPPORT TOOLS** click logo to get started



PARTS TABLE					
PART	ORDERING CODE	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS	
BAS40-00	BAS40-00-E3-08 or BAS40-00-E3-18	Cinalo	43	- Tape and reel	
	BAS40-00-HE3-08 or BAS40-00-HE3-18	Single			
BAS40-04	BAS40-04-E3-08 or BAS40-04-E3-18	Dual serial	44		
	BAS40-04-HE3-08 or BAS40-04-HE3-18	Duai Seriai			
BAS40-05	BAS40-05-E3-08 or BAS40-05-E3-18	Common cathode	45		
	BAS40-05-HE3-08 or BAS40-05-HE3-18	Common camode			
BAS40-06	BAS40-06-E3-08 or BAS40-06-E3-18	Common anode	46		
	BAS40-06-HE3-08 or BAS40-06-HE3-18	Common anode	40		

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 (1)		l <sub>F</sub>	200	mA		
Surge forward current (1)	t <sub>p</sub> < 1 s	I <sub>FSM</sub>	600	mA		
Power dissipation (1)		P <sub>tot</sub>	200	mW		

#### Note

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



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## Vishay Semiconductors

THERMAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Thermal resistance junction to ambient air (1)		R <sub>thJA</sub>	500	K/W	
Junction temperature		T <sub>j</sub>	125	°C	
Storage temperature range		T <sub>stg</sub>	-65 to +150	°C	
Operating temperature range		T <sub>op</sub>	-55 to +125	°C	

### Note

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

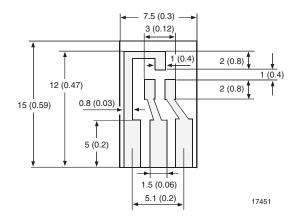
<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	I <sub>R</sub> = 10 μA (pulsed)	V <sub>(BR)</sub>	40			V
Leakage current	V <sub>R</sub> = 30 V	I <sub>R</sub>		20	100	nA
Forward voltage	I <sub>F</sub> = 1 mA	V <sub>F</sub>			380	mV
Forward voltage (1)	I <sub>F</sub> = 40 mA	$V_{F}$			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

#### Note

### LAYOUT FOR R<sub>thJA</sub> TEST

Thickness:

Fiberglass 1.5 mm (0.059 inches) Copper leads 0.3 mm (0.012 inches)

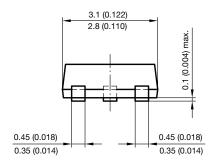


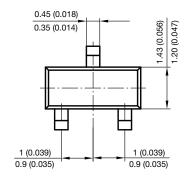
 $<sup>^{(1)}</sup>$  Pulse test  $t_p < 300 \ \mu s$ 



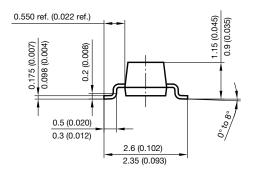
## Vishay Semiconductors

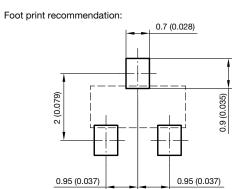
### PACKAGE DIMENSIONS in millimeters (inches): SOT-23





Document no.: 6.541-5014.01-4 Rev. 8 - Date: 23.Sept.2009 17418







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