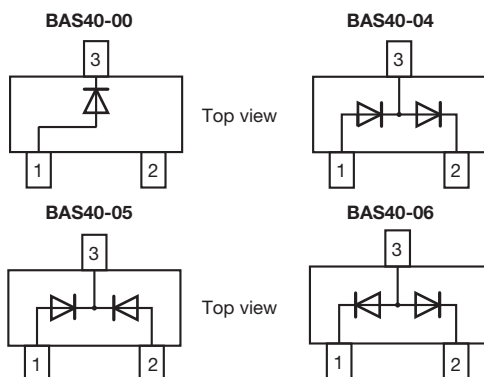


## Small Signal Schottky Diodes, Single and Dual



### FEATURES

- These diodes feature very low turn-on voltage and fast switching
- These devices are protected by a PN junction guarding against excessive voltage, such as electrostatic discharges
- 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 [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT

### 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	Single	43	Tape and reel
	BAS40-00-HE3-08 or BAS40-00-HE3-18			
BAS40-04	BAS40-04-E3-08 or BAS40-04-E3-18	Dual serial	44	
	BAS40-04-HE3-08 or BAS40-04-HE3-18			
BAS40-05	BAS40-05-E3-08 or BAS40-05-E3-18	Common cathode	45	
	BAS40-05-HE3-08 or BAS40-05-HE3-18			
BAS40-06	BAS40-06-E3-08 or BAS40-06-E3-18	Common anode	46	
	BAS40-06-HE3-08 or BAS40-06-HE3-18			

ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25^{\circ}\text{C}$ , unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Repetitive peak reverse voltage		$V_{RRM} = V_{RWM} = V_R$	40	V
Forward continuous current <sup>(1)</sup>		$I_F$	200	mA
Surge forward current <sup>(1)</sup>	$t_p < 1 \text{ s}$	$I_{FSM}$	600	mA
Power dissipation <sup>(1)</sup>		$P_{tot}$	200	mW

#### Note

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

THERMAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to ambient air <sup>(1)</sup>		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

(1) 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 <sup>(1)</sup>	I <sub>F</sub> = 40 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 <sub>F</sub> = I <sub>R</sub> = 10 mA, i <sub>R</sub> = 1 mA, R <sub>L</sub> = 100 Ω	t <sub>rr</sub>			5	ns

### Note

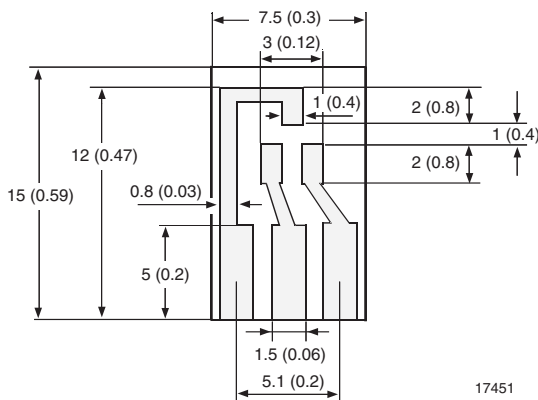
(1) Pulse test  $t_p < 300 \mu s$

## LAYOUT FOR $R_{thJA}$ TEST

Thickness:

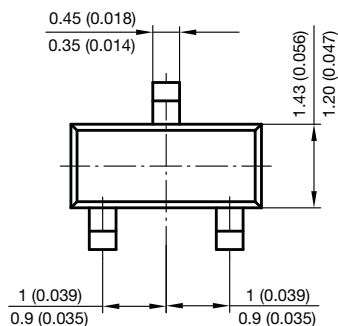
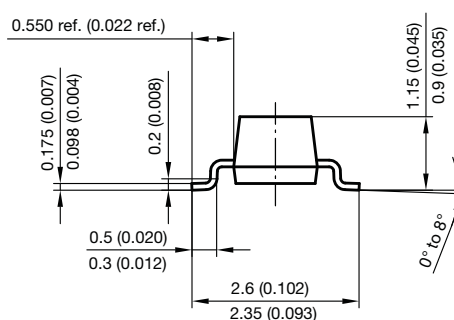
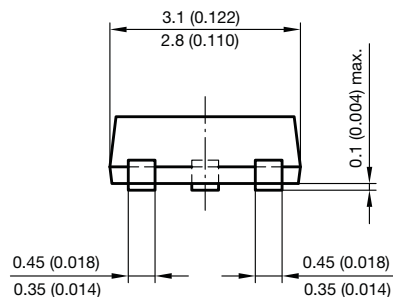
Fiberglass 1.5 mm (0.059 inches)

Copper leads 0.3 mm (0.012 inches)

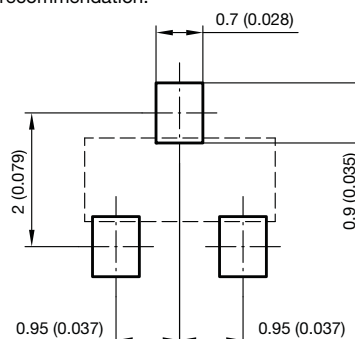




**PACKAGE DIMENSIONS** in millimeters (inches): **SOT-23**



Foot print recommendation:



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Rev. 8 - Date: 23.Sept.2009  
17418



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