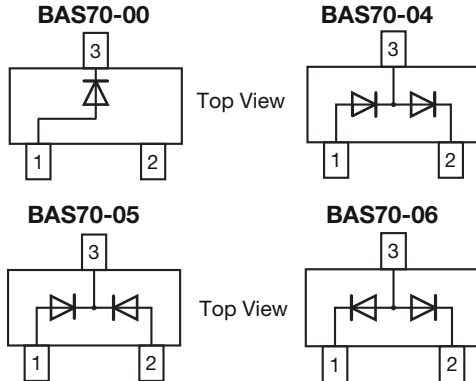


## Small Signal Schottky Diodes, Single and Dual



### FEATURES

- These diodes feature very low turn-on voltage and fast switching
- These devices are protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges
- AEC-Q101 qualified
- 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

| PARTS TABLE |                                    |                            |              |               |
|-------------|------------------------------------|----------------------------|--------------|---------------|
| PART        | ORDERING CODE                      | INTERNAL CONSTRUCTION      | TYPE MARKING | REMARKS       |
| BAS70-00    | BAS70-00-E3-08 or BAS70-00-E3-18   | Single diode               | 73           | Tape and reel |
|             | BAS70-00-HE3-08 or BAS70-00-HE3-18 |                            |              |               |
| BAS70-04    | BAS70-04-E3-08 or BAS70-04-E3-18   | Dual diodes serial         | 74           |               |
|             | BAS70-04-HE3-08 or BAS70-04-HE3-18 |                            |              |               |
| BAS70-05    | BAS70-05-E3-08 or BAS70-05-E3-18   | Dual diodes common cathode | 75           |               |
|             | BAS70-05-HE3-08 or BAS70-05-HE3-18 |                            |              |               |
| BAS70-06    | BAS70-06-E3-08 or BAS70-06-E3-18   | Dual diodes common anode   | 76           |               |
|             | BAS70-06-HE3-08 or BAS70-06-HE3-18 |                            |              |               |

| ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified) |                    |                           |       |      |
|---|--------------------|---------------------------|-------|------|
| PARAMETER   | TEST CONDITION     | SYMBOL                    | VALUE | UNIT |
| Repetitive peak reverse voltage   |                    | $V_{RRM} = V_{RRM} = V_R$ | 70    | 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 ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified) |                |            |               |                    |
|--|----------------|------------|---------------|--------------------|
| PARAMETER  | TEST CONDITION | SYMBOL     | VALUE         | UNIT               |
| Thermal resistance junction to ambient air <sup>(1)</sup>                                      |                | $R_{thJA}$ | 500           | K/W                |
| Junction temperature   |                | $T_j$      | 125           | $^{\circ}\text{C}$ |
| Storage temperature range  |                | $T_{stg}$  | - 65 to + 150 | $^{\circ}\text{C}$ |
| Operating temperature range  |                | $T_{op}$   | - 55 to + 125 | $^{\circ}\text{C}$ |

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

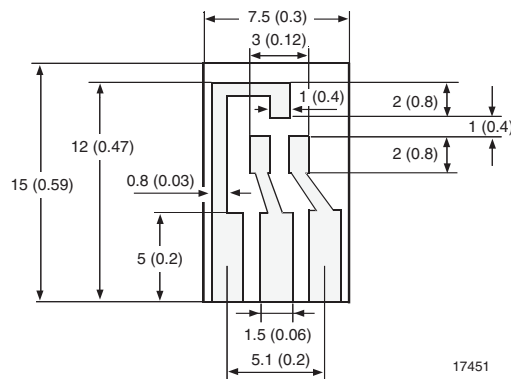
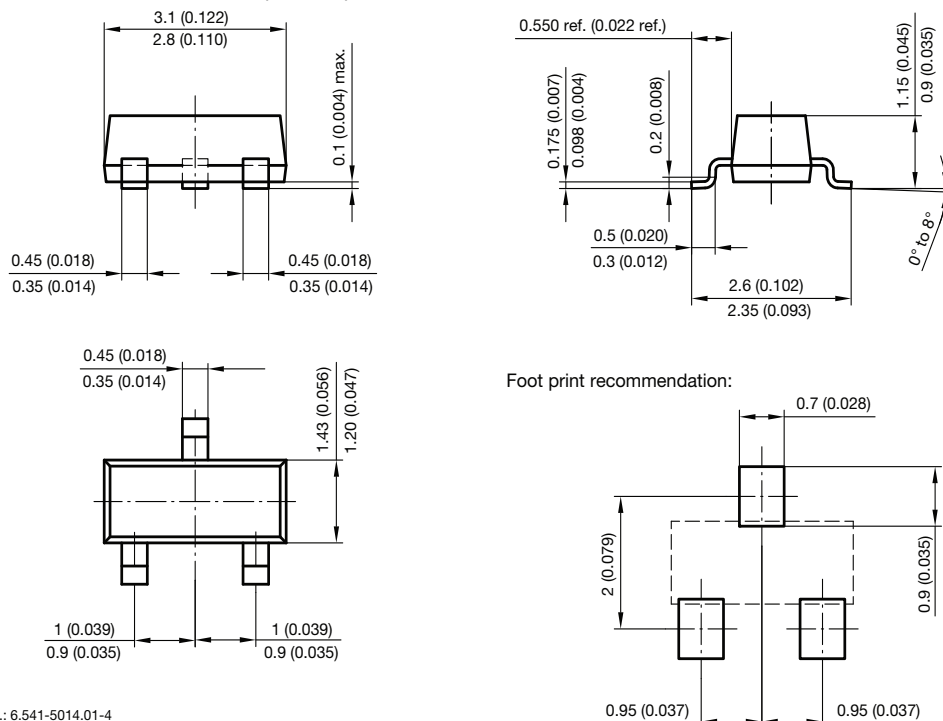
| <b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified) |   |            |      |      |      |      |
|--|---|------------|------|------|------|------|
| PARAMETER  | TEST CONDITION  | SYMBOL     | MIN. | TYP. | MAX. | UNIT |
| Reverse breakdown voltage  | $I_R = 10\text{ }\mu\text{A}$ (pulsed)  | $V_{(BR)}$ | 70   |      |      | V    |
| Leakage current  | $V_R = 50\text{ V}$   | $I_R$      |      | 20   | 100  | nA   |
| Forward voltage  | $I_F = 1.0\text{ mA}$   | $V_F$      |      |      | 410  | mV   |
| Forward voltage <sup>(1)</sup>   | $I_F = 15\text{ mA}$  | $V_F$      |      |      | 1000 | mV   |
| Diode capacitance  | $V_R = 0\text{ V}$ , $f = 1\text{ MHz}$   | $C_D$      |      | 1.5  | 2    | pF   |
| Reverse recovery time  | $I_F = I_R = 10\text{ mA}$ , $i_R = 1\text{ mA}$ ,<br>$R_L = 100\text{ }\Omega$ | $t_{rr}$   |      |      | 5    | ns   |

**Note**
<sup>(1)</sup> Pulse test;  $t_p \leq 300\text{ }\mu\text{s}$ 
**LAYOUT FOR  $R_{thJA}$  TEST**

Thickness:

Fiberglass 1.5 mm (0.059")

Copper leads 0.3 mm (0.012")


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

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



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