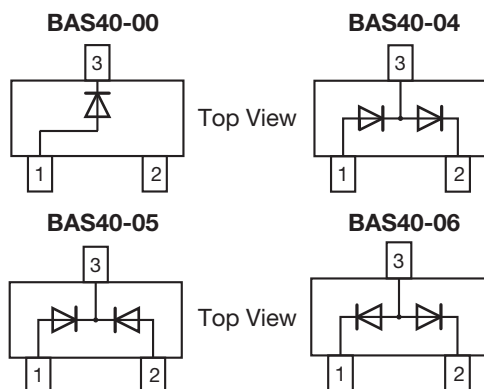


## Small Signal Schottky Diodes, Single and Dual



### 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
- 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       |
|----------|------------------------------------|----------------------------|--------------|---------------|
| BAS40-00 | BAS40-00-E3-08 or BAS40-00-E3-18   | Single diode               | 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 diodes serial         | 44           |               |
|          | BAS40-04-HE3-08 or BAS40-04-HE3-18 |                            |              |               |
| BAS40-05 | BAS40-05-E3-08 or BAS40-05-E3-18   | Dual diodes common cathode | 45           |               |
|          | BAS40-05-HE3-08 or BAS40-05-HE3-18 |                            |              |               |
| BAS40-06 | BAS40-06-E3-08 or BAS40-06-E3-18   | Dual diodes 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 ( $T_{amb} = 25^{\circ}\text{C}$ , 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.

**ELECTRICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

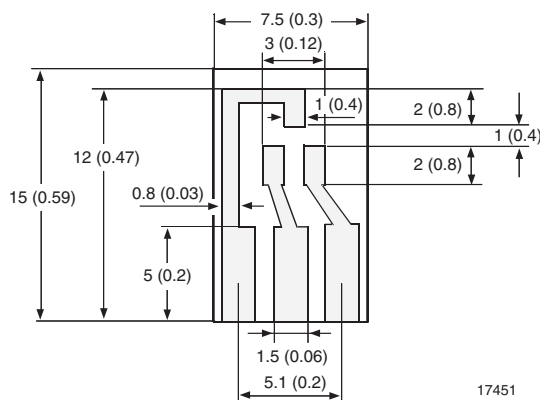
| PARAMETER                      | TEST CONDITION                                                               | SYMBOL     | MIN. | TYP. | MAX. | UNIT |
|--------------------------------|------------------------------------------------------------------------------|------------|------|------|------|------|
| Reverse breakdown voltage      | $I_R = 10\text{ }\mu\text{A}$ (pulsed)                                       | $V_{(BR)}$ | 40   |      |      | V    |
| Leakage current                | $V_R = 30\text{ V}$                                                          | $I_R$      |      | 20   | 100  | nA   |
| Forward voltage                | $I_F = 1\text{ mA}$                                                          | $V_F$      |      |      | 380  | mV   |
| Forward voltage <sup>(1)</sup> | $I_F = 40\text{ mA}$                                                         | $V_F$      |      |      | 1000 | mV   |
| Diode capacitance              | $V_R = 0\text{ V}$ , $f = 1\text{ MHz}$                                      | $C_D$      |      | 4    | 5    | pF   |
| Reverse recovery time          | $I_F = I_R = 10\text{ mA}$ , $i_R = 1\text{ mA}$ , $R_L = 100\text{ }\Omega$ | $t_{rr}$   |      |      | 5    | ns   |

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

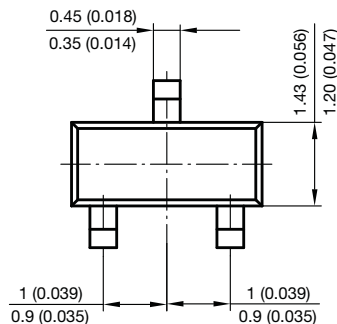
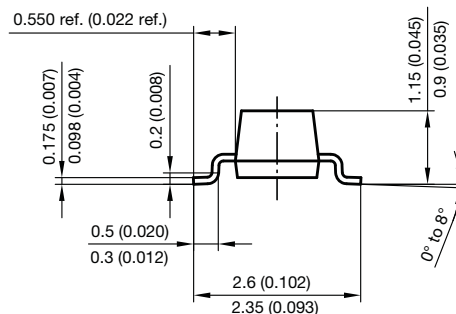
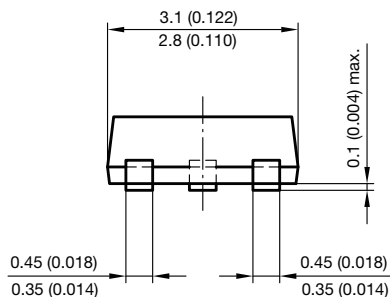
Thickness:

Fiberglass 1.5 mm (0.059 inches)

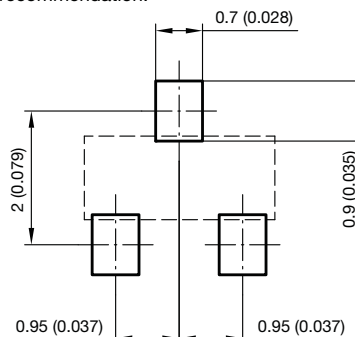
Copper leads 0.3 mm (0.012 inches)



17451

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

Foot print recommendation:





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