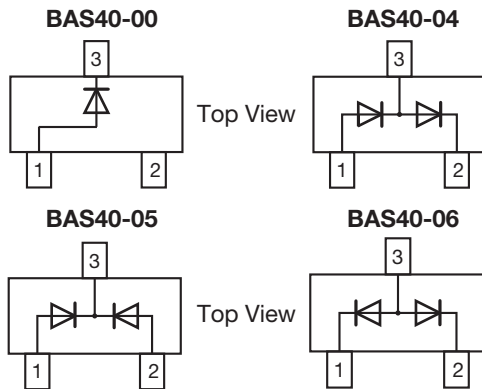


Small Signal Schottky Diodes, Single and Dual



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


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

Note
⁽¹⁾ 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 ⁽¹⁾ | | 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
⁽¹⁾ 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 ⁽¹⁾ | $I_F = 40\text{ mA}$ | 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 |

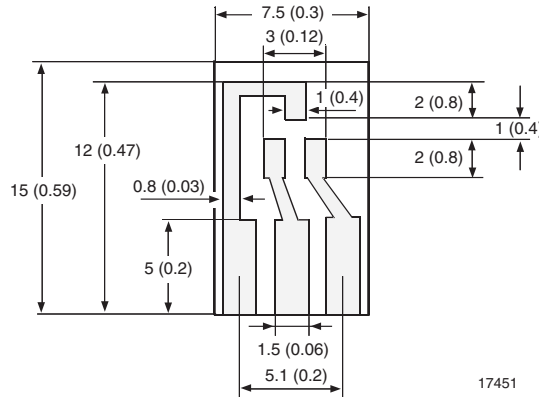
Note

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

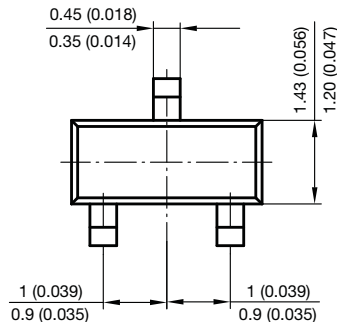
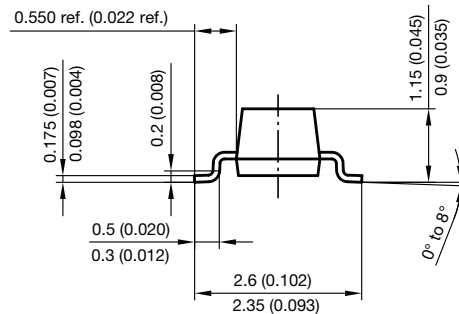
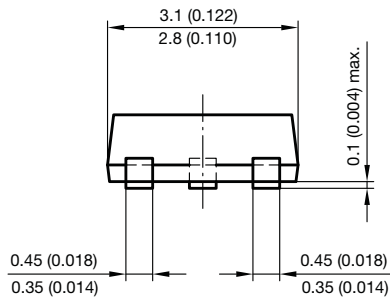
Thickness:

Fiberglass 1.5 mm (0.059 inches)

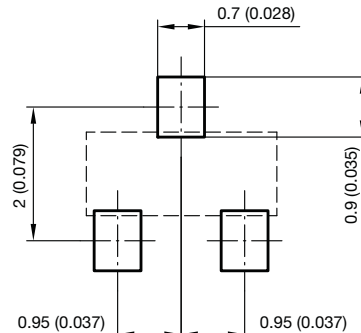
Copper leads 0.3 mm (0.012 inches)



17451

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


Foot print recommendation:


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



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