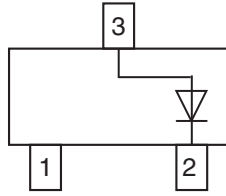


Small Signal Fast Switching Diode



FEATURES

- Fast switching speed
- Surface mount package
- Well suited for automated assembly process
- 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


RoHS
COMPLIANT

DESIGN SUPPORT TOOLS click logo to get started



MECHANICAL DATA

Case: SOT-23

Weight: approx. 8.8 mg

Packaging codes / options:

18/10K per 13" reel (8 mm tape), 10K/box

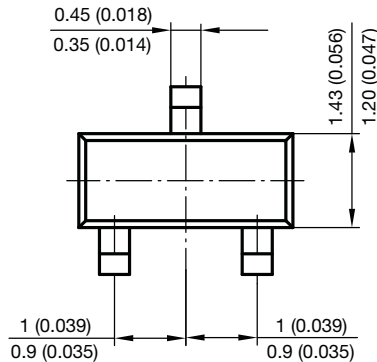
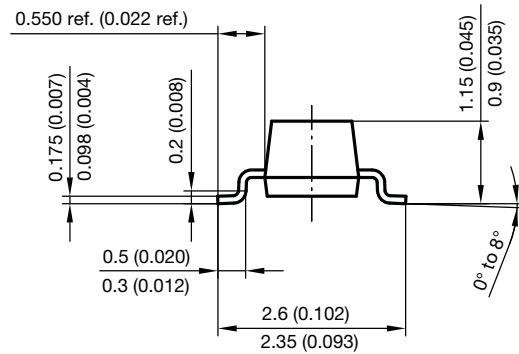
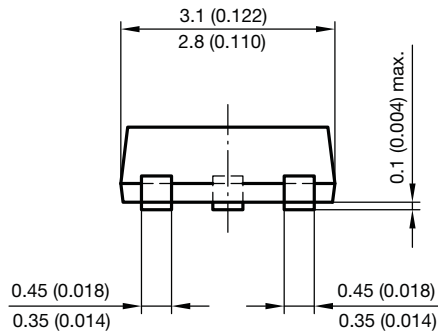
08/3K per 7" reel (8 mm tape), 15K/box

| PARTS TABLE | | | | |
|-------------|------------------------------|-----------------------|--------------|---------------|
| PART | ORDERING CODE | CIRCUIT CONFIGURATION | TYPE MARKING | REMARKS |
| BAL99 | BAL99-E3-08 or BAL99-E3-18 | Single | JF | Tape and reel |
| | BAL99-HE3-08 or BAL99-HE3-18 | | | |

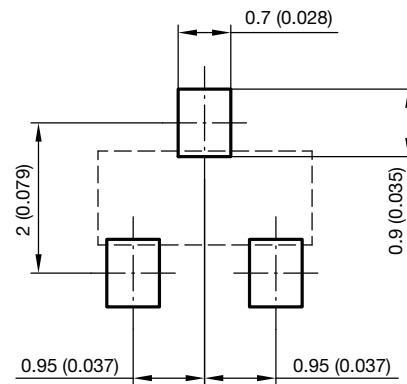
| ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified) | | | | |
|---|---|---------------------------|-------|------|
| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
| Repetitive peak reverse voltage = working peak reverse voltage = DC blocking voltage | | $V_{RRM} = V_{RWM} = V_R$ | 70 | V |
| Peak forward surge current | $t_p = 1\ \mu\text{s}$ | I_{FSM} | 2 | A |
| | $t_p = 1\ \text{ms}$ | I_{FSM} | 1 | A |
| | $t_p = 1\ \text{s}$ | I_{FSM} | 0.5 | A |
| Average forward current | | I_{FAV} | 250 | mA |
| Power dissipation | On fiberglass substrate 30 mm x 10 mm x 1.6 mm | P_{tot} | 350 | mW |

| THERMAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified) | | | | |
|--|---|------------|-------------|--------------------|
| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
| Thermal resistance junction to ambient air | On fiberglass substrate 30 mm x 10 mm x 1.6 mm | R_{thJA} | 357 | K/W |
| Junction temperature | | T_j | 150 | $^{\circ}\text{C}$ |
| Storage temperature range | | T_{stg} | -55 to +150 | $^{\circ}\text{C}$ |
| Operating temperature range | | T_{op} | -55 to +150 | $^{\circ}\text{C}$ |

| ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified) | | | | | | |
|--|--|----------|------|------|-------|---------------|
| PARAMETER | TEST CONDITION | SYMBOL | MIN. | TYP. | MAX. | UNIT |
| Forward voltage | $I_F = 1\text{ mA}$ | V_F | | | 0.715 | V |
| | $I_F = 10\text{ mA}$ | V_F | | | 0.855 | V |
| | $I_F = 50\text{ mA}$ | V_F | | | 1 | V |
| | $I_F = 150\text{ mA}$ | V_F | | | 1.25 | V |
| Reverse current | $V_R = 70\text{ V}$ | I_R | | | 2500 | nA |
| | $V_R = 70\text{ V}, T_j = 150\text{ }^{\circ}\text{C}$ | I_R | | | 100 | μA |
| | $V_R = 25\text{ V}, T_j = 150\text{ }^{\circ}\text{C}$ | I_R | | | 30 | μA |
| Diode capacitance | $V_F = V_R = 0, f = 1\text{ MHz}$ | C_D | | | 1.5 | pF |
| Reverse recovery time | $I_F = I_R = 10\text{ mA}, i_R = 1\text{ mA}$ | t_{rr} | | | 6 | ns |

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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