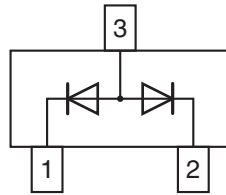




Dual Common Anode Small Signal High Voltage Switching Diode



FEATURES

- Silicon epitaxial planar diode
- Fast switching dual common anode diode, especially suited for applications requiring high voltage capability
- 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 |
| GSD2004A | GSD2004A-E3-08 or GSD2004A-E3-18 | Common anode | DBA | Tape and reel |
| | GSD2004A-HE3-08 or GSD2004A-HE3-18 | | | |

| ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified) | | | | |
|---|------------------------------|-----------|-------|------|
| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
| Continuous reverse voltage | | V_R | 240 | V |
| Peak repetitive reverse voltage | | V_{RRM} | 300 | V |
| Forward current (continuous) | | I_F | 225 | mA |
| Peak repetitive forward current | | I_{FRM} | 625 | mA |
| Non-repetitive peak forward current | $t_p = 1\text{ }\mu\text{s}$ | I_{FSM} | 4 | A |
| | $t_p = 1\text{ s}$ | | 1 | A |
| Power dissipation ⁽¹⁾ | | P_{tot} | 350 | mW |

| THERMAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified) | | | | |
|--|----------------|------------|-------------|-----------------------------|
| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
| Typical thermal resistance junction to ambient air ⁽¹⁾ | | R_{thJA} | 357 | $^{\circ}\text{C}/\text{W}$ |
| Junction temperature | | T_j | 150 | $^{\circ}\text{C}$ |
| Storage temperature range | | T_{stg} | -65 to +150 | $^{\circ}\text{C}$ |
| Operating temperature range | | T_{op} | -55 to +150 | $^{\circ}\text{C}$ |

Note

⁽¹⁾ Device on fiberglass substrate

| ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified) | | | | | | |
|--|--|----------|------|------|------|---------------|
| PARAMETER | TEST CONDITION | SYMBOL | MIN. | TYP. | MAX. | UNIT |
| Reverse breakdown voltage | $I_R = 100\text{ }\mu\text{A}$ | V_{BR} | 300 | | | V |
| Leakage current | $V_R = 240\text{ V}$ | I_R | | | 100 | nA |
| | $V_R = 240\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$ | I_R | | | 100 | μA |
| Forward voltage | $I_F = 20\text{ mA}$ | V_F | | 0.83 | 0.87 | V |
| | $I_F = 100\text{ mA}$ | V_F | | | 1 | V |
| Diode capacitance | $V_F = V_R = 0, f = 1\text{ MHz}$ | C_D | | | 5 | pF |
| Reverse recovery time | $I_F = I_R = 30\text{ mA}, I_R = 3\text{ mA}, R_L = 100\text{ }\Omega$ | t_{rr} | | | 50 | ns |

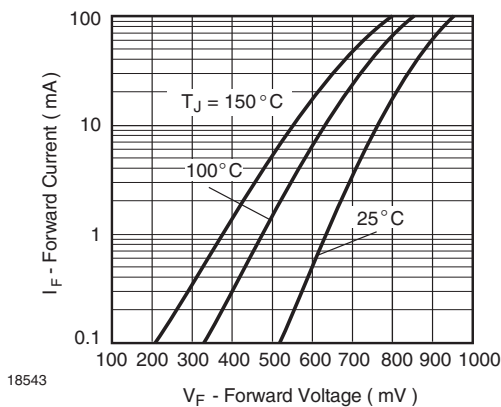
TYPICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)


Fig. 1 - Typical Instantaneous Forward Characteristics

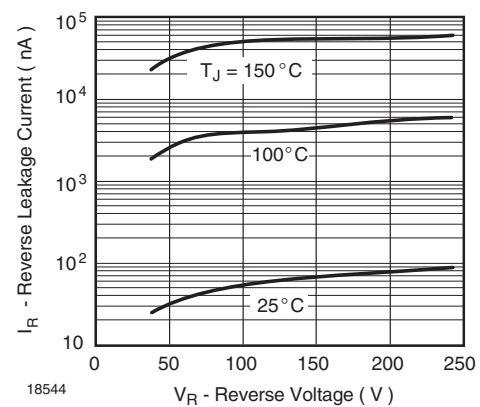


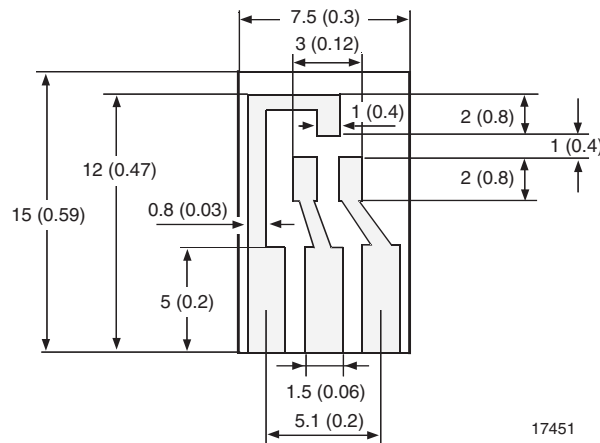
Fig. 2 - Typical Reverse Characteristics

LAYOUT FOR R_{thJA} TEST

Thickness:

Fiberglass 1.5 mm (0.059 in.)

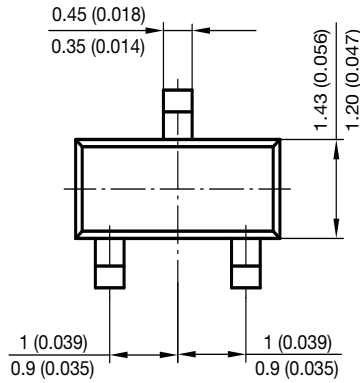
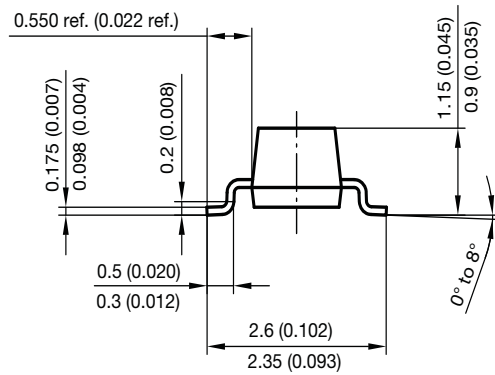
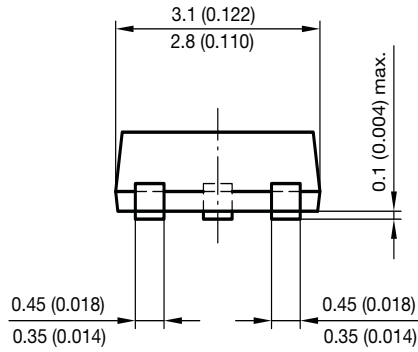
Copper leads 0.3 mm (0.012 in.)



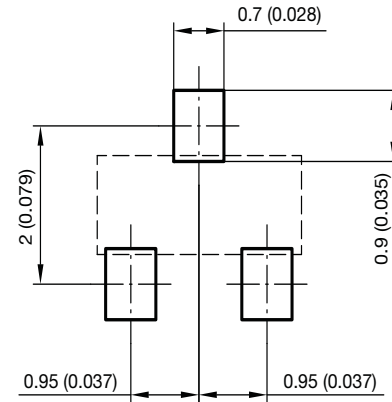
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PACKAGE DIMENSIONS in millimeters (inches): SOT-23



Foot print recommendation:



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17418



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