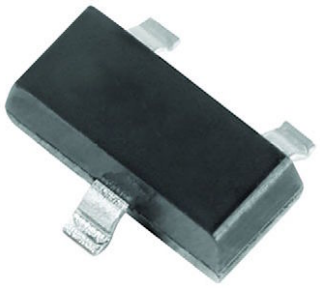
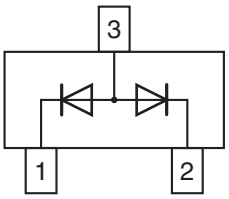
# Dual Common Anode Small Signal High Voltage Switching Diode






## FEATURES

- Silicon epitaxial planar diode
- Fast switching dual common anode diode, especially suited for applications requiring high voltage capability
- AEC-Q101 qualified available (part number on request)
- Base P/N-G3 - green, commercial grade
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free

e3

RoHS COMPLIANT

HALOGEN FREE GREEN (5-2008)

**DESIGN SUPPORT TOOLS** click logo to get started

3D Models Available

## MECHANICAL DATA

**Case:** SOT-23

**Weight:** approx. 8.1 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-G | GSD2004A-G3-08 or GSD2004A-G3-18 | Common anode | DBH | Tape and reel |

| ABSOLUTE MAXIMUM RATINGS ($T_{amb}$ = 25 °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 µs | $I_{FSM}$ | 4 | A |
| | $t_p$ = 1 s | | 1 | A |
| Power dissipation (1) | | $P_{tot}$ | 350 | mW |

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

**Note**

(1) Device on fiberglass substrate

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

## TYPICAL CHARACTERISTICS ($T_{amb}$ = 25 °C, unless otherwise specified)

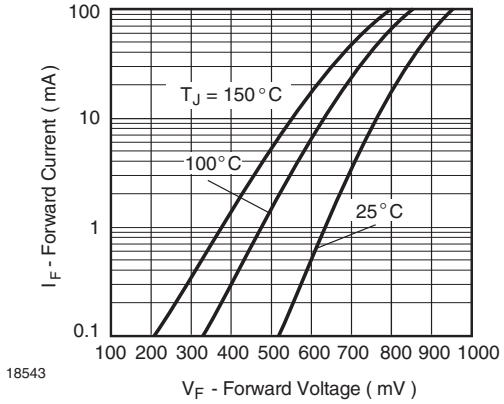



Fig. 1 - Typical Instantaneous Forward Characteristics

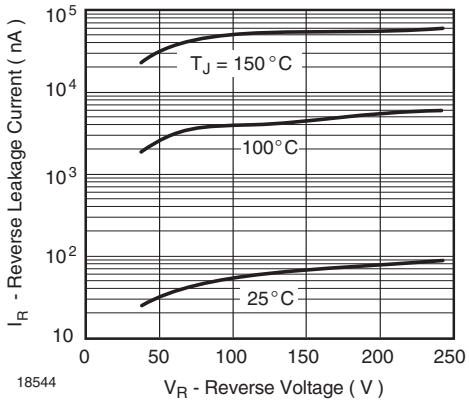
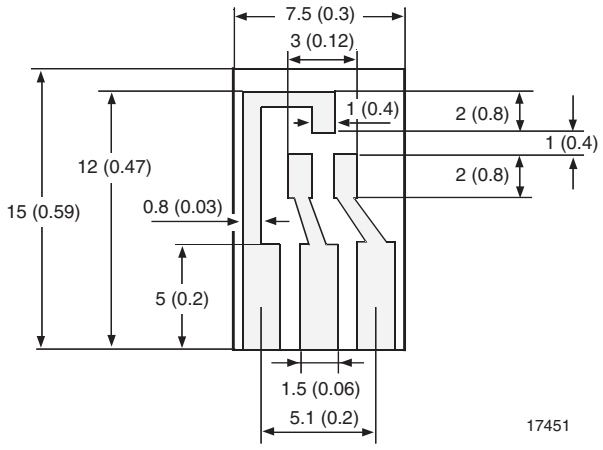


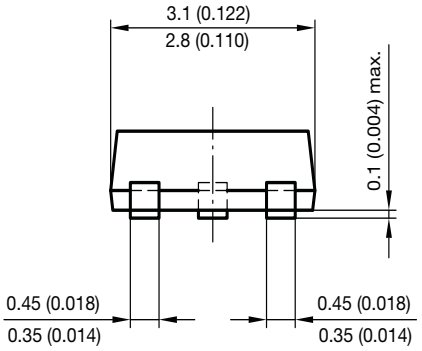

Fig. 2 - Typical Reverse Characteristics

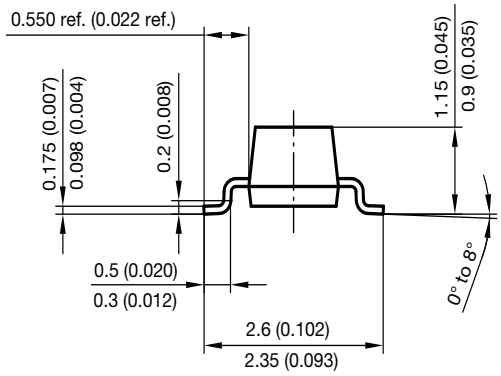
## LAYOUT FOR $R_{thJA}$ TEST

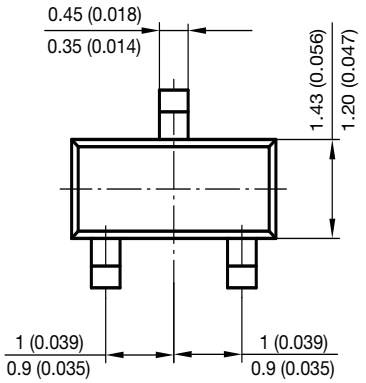
Thickness:
Fiberglass 1.5 mm (0.059 in.)
Copper leads 0.3 mm (0.012 in.)



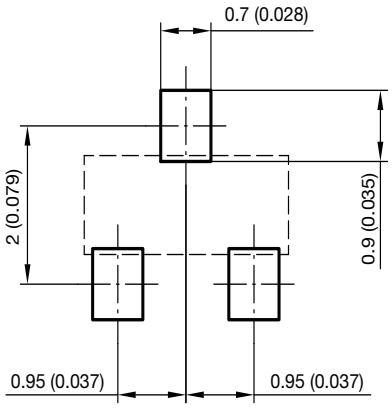
**PACKAGE DIMENSIONS** in millimeters (inches): **SOT-23**




Foot print recommendation:

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