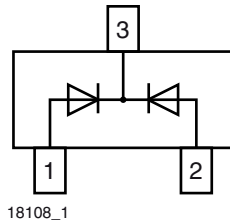




# Dual Common Cathode Small Signal High Voltage Switching Diode



### FEATURES

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



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

### 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                    | INTERNAL CONSTRUCTION      | TYPE MARKING | REMARKS       |
| GSD2004C-G  | GSD2004C-G3-08 or GSD2004C-G3-18 | Dual diodes common cathode | DBK          | Tape and reel |

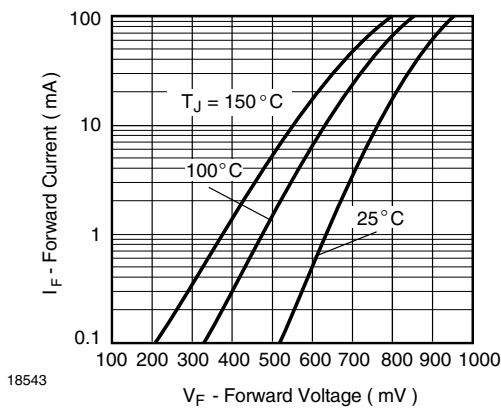
| ABSOLUTE MAXIMUM RATINGS (T <sub>amb</sub> = 25 °C, unless otherwise specified) |                       |                  |       |      |
|---|-----------------------|------------------|-------|------|
| PARAMETER   | TEST CONDITION        | SYMBOL           | VALUE | UNIT |
| Continuous reverse voltage  |                       | V <sub>R</sub>   | 240   | V    |
| Peak repetitive reverse voltage   |                       | V <sub>RRM</sub> | 300   | V    |
| Forward current (continuous)  |                       | I <sub>F</sub>   | 225   | mA   |
| Peak repetitive forward current   |                       | I <sub>FRM</sub> | 625   | mA   |
| Non-repetitive peak forward current   | t <sub>p</sub> = 1 μs | I <sub>FSM</sub> | 4     | A    |
|   | t <sub>p</sub> = 1 s  |                  | 1     | A    |
| Power dissipation <sup>(1)</sup>  |                       | P <sub>tot</sub> | 350   | mW   |

| THERMAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified) |                |                   |               |      |
|--|----------------|-------------------|---------------|------|
| PARAMETER  | TEST CONDITION | SYMBOL            | VALUE         | UNIT |
| Typical thermal resistance junction to ambient air <sup>(1)</sup>              |                | R <sub>thJA</sub> | 357           | °C/W |
| Junction temperature   |                | T <sub>j</sub>    | 150           | °C   |
| Storage temperature range  |                | T <sub>stg</sub>  | - 65 to + 150 | °C   |
| Operating temperature range  |                | T <sub>op</sub>   | - 55 to + 150 | °C   |

### Note

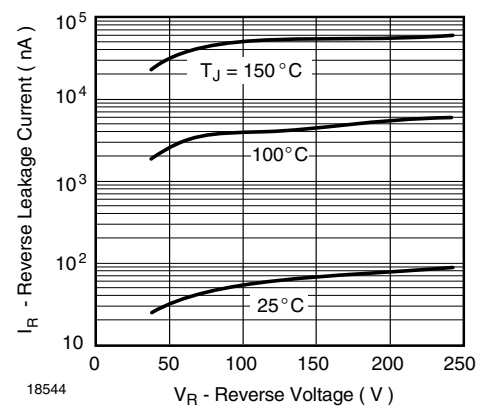
<sup>(1)</sup> Device on fiberglass substrate

| <b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , 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  | $\mu\text{A}$ |
| 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)


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Fig. 1 - Typical Instantaneous Forward Characteristics



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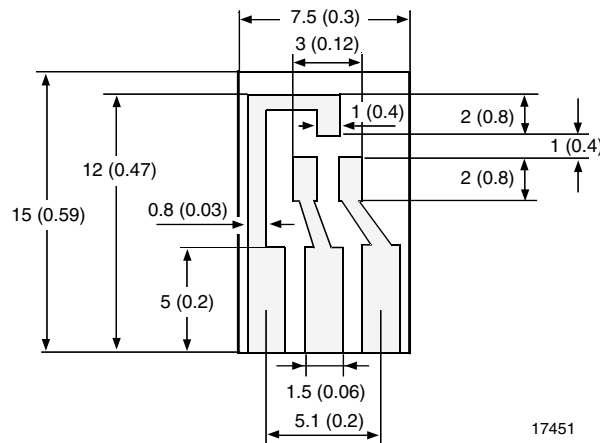
Fig. 2 - Typical Reverse Characteristics

**Layout For RthJA test**

Thickness:

Fiberglass 1.5 mm (0.059 in.)

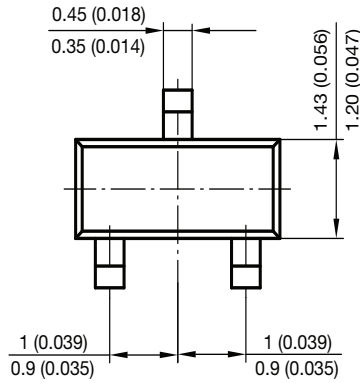
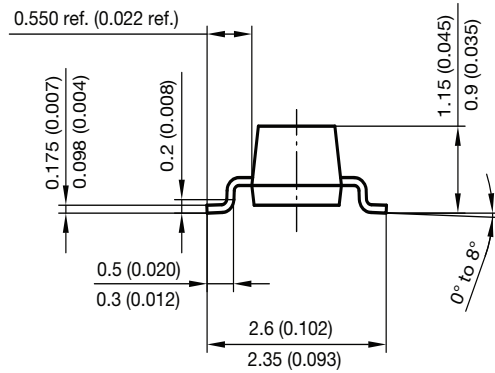
Copper leads 0.3 mm (0.012 in.)



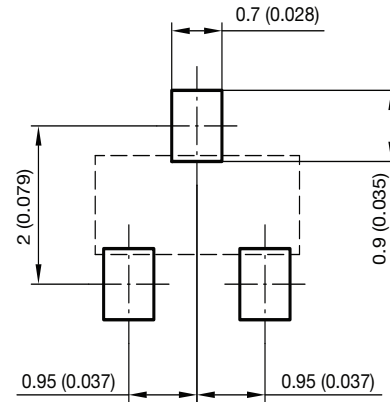
17451



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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