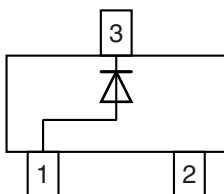
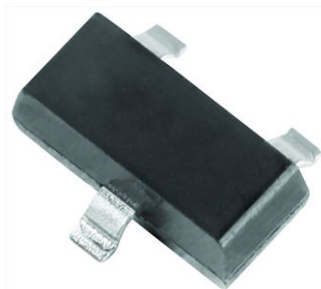


## Small Signal Switching Diode



### FEATURES

- Silicon epitaxial planar diode
- Fast switching diode in case SOT-23, especially suited for automatic insertion
- AEC-Q101 qualified available (part number on request)
- Molding compound meets UL 94 V-0 flammability rating
- Moisture sensitivity level (MSL) 1
- 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)

### LINKS TO ADDITIONAL RESOURCES



3D Models



Models



Marking


Parametric  
Search


Order Samples

### MECHANICAL DATA

**Case:** SOT-23

**Weight:** approx. 9.2 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 | AEC-Q101 QUALIFIED | TYPE MARKING | CIRCUIT CONFIGURATION | TAPED UNITS PER REEL              | MINIMUM ORDER QUANTITY |
|-----------|---------------|--------------------|--------------|-----------------------|-----------------------------------|------------------------|
| MMBD914-G | MMBD914-G3-08 | no                 | 5DG          | Single                | 3 000<br>(8 mm tape on 7" reel)   | 15 000                 |
|           | MMBD914-G3-18 | no                 |              |                       | 10 000<br>(8 mm tape on 13" reel) | 10 000                 |

### PACKAGE

| PACKAGE NAME | WEIGHT | MOLDING COMPOUND FLAMMABILITY RATING | MOISTURE SENSITIVITY LEVEL     | SOLDERING CONDITIONS         |
|--------------|--------|--------------------------------------|--------------------------------|------------------------------|
| SOT-23       | 9.2 mg | UL 94 V-0                            | MSL 1<br>(according J-STD-020) | Peak temperature max. 260 °C |

### ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25\text{ °C}$ , unless otherwise specified)

| PARAMETER                                 | TEST CONDITION                                     | SYMBOL      | VALUE | UNIT |
|---|--|-------------|-------|------|
| Peak reverse voltage                      |  | $V_{RRM}$   | 100   | V    |
| Maximum average forward rectified current | $f \geq 50\text{ Hz}$                              | $I_{F(AV)}$ | 250   | mA   |
| Power dissipation                         | on FR-4 board with recommended soldering footprint | $P_{tot}$   | 270   | mW   |
|   | Infinite heatsink                                  |             | 390   | 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   | according to JEDEC® 51-3 on FR-4 board with recommended soldering footprint | $R_{thJA}$ | 460         | K/W                |
| Thermal resistance junction to lead  | Infinite heatsink   | $R_{thJL}$ | 320         | K/W                |
| Maximum 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 | $^{\circ}\text{C}$ |

| ELECTRICAL CHARACTERISTICS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified) |  |          |      |               |
|---|--|----------|------|---------------|
| PARAMETER   | TEST CONDITION   | SYMBOL   | MAX. | UNIT          |
| Forward voltage drop  | $I_F = 10\text{ mA}$   | $V_F$    | 1    | V             |
| Reverse current   | $V_R = 20\text{ V}$  | $I_R$    | 25   | nA            |
|   | $V_R = 75\text{ V}$  | $I_R$    | 5    | $\mu\text{A}$ |
| Reverse recovery time   | $I_F = 10\text{ mA}$ to $i_R = 1\text{ mA}$ , $V_R = 6\text{ V}$ , $R_L = 100\text{ }\Omega$ | $t_{rr}$ | 4    | ns            |
| Diode capacitance   | $V_R = 0\text{ V}$ , $f = 1\text{ MHz}$  | $C_D$    | 1.5  | pF            |

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

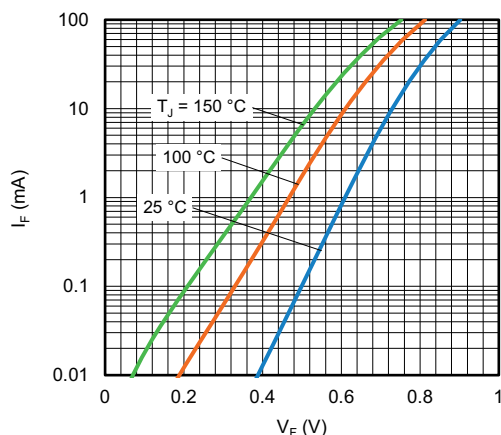


Fig. 1 - Forward Current vs. Forward Voltage

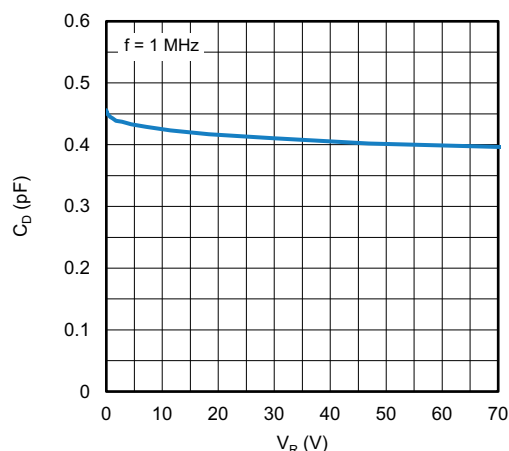


Fig. 3 - Typical Capacitance vs. Reverse Voltage

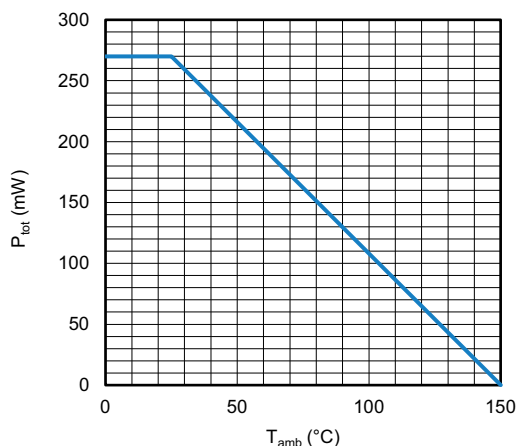


Fig. 2 - Admissible Power Dissipation vs. Ambient Temperature

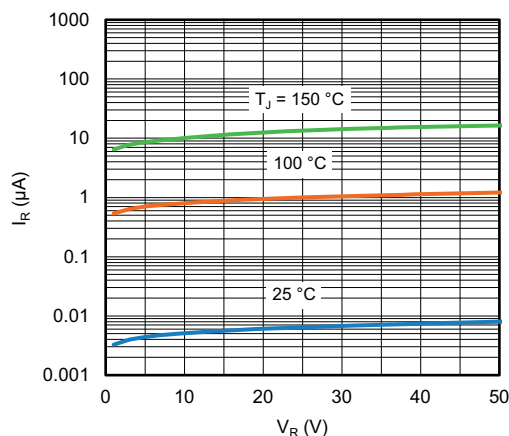
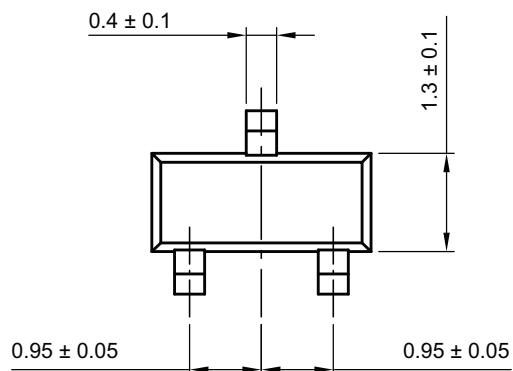
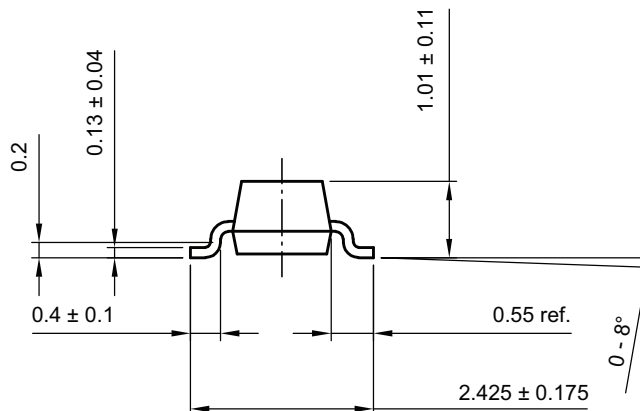
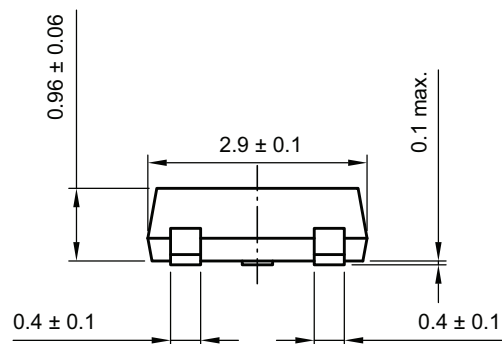


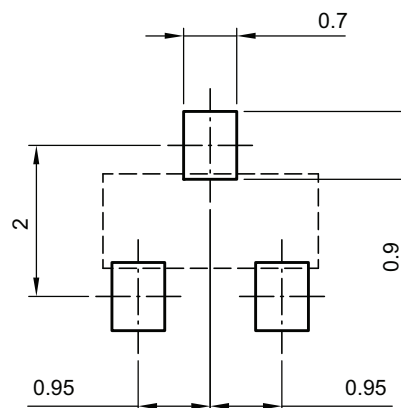
Fig. 4 - Typical Reverse Leakage Current vs. Reverse Voltage



**PACKAGE DIMENSIONS** in millimeters: **SOT-23**



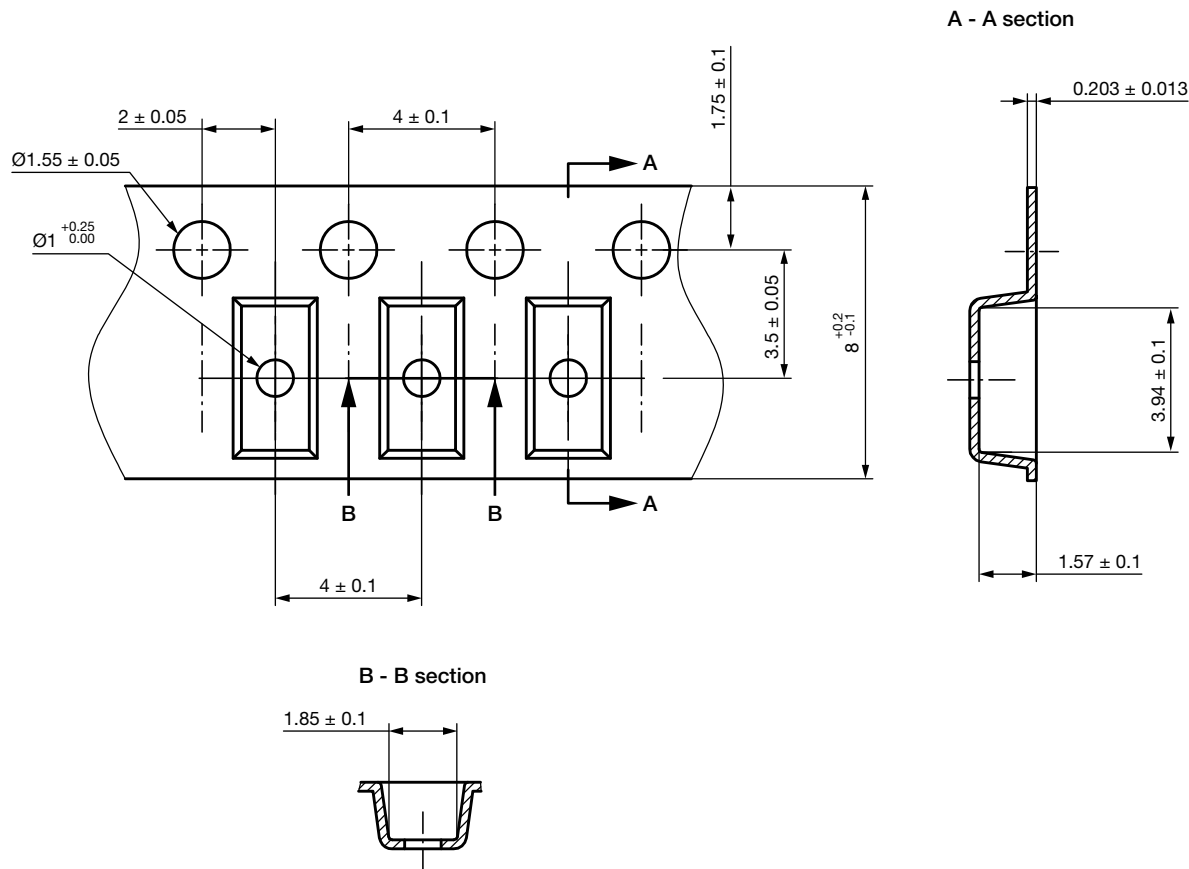
footprint recommendation:



Created - Date: 18-Oct-2021  
Rev. 01 - Date: 18-Jan-2022  
S8-V-3929.01-009 (4)



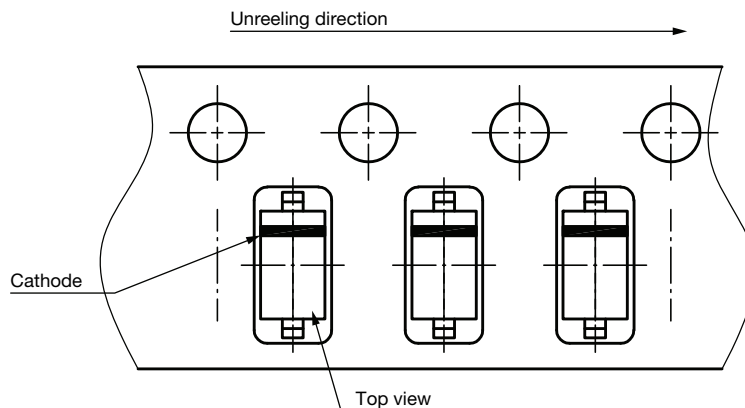
CARRIER TAPE SOT-23



Rev. 02 - Date: 21. Jan. 2014  
Document no.: S8-V-3717.10-002 (4)

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ORIENTATION IN CARRIER TAPE SOT-23



Rev. 02 - Date: 07. Nov. 2022  
Document no.: S8-V-3717.10-003 (4)

23225



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