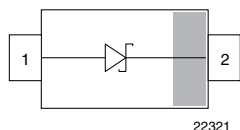


## Small Signal Schottky Diode



### FEATURES

- This diode features very low turn-on voltage and fast switching
- This device is protected by a PN junction guard ring against excessive voltage, such as electrostatic discharges
- AEC-Q101 qualified available
- Space saving SOD-523 package
- Base P/N-G3 - RoHS-compliant, commercial grade
- Base P/N-HG3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



### LINKS TO ADDITIONAL RESOURCES



### MECHANICAL DATA

**Case:** SOD-523

**Weight:** approx. 1.4 mg

**Molding compound flammability rating:** UL 94 V-0

**Terminals:** high temperature soldering guaranteed:  
260 °C/10 s at terminals

**Packaging codes / options:**

08/8K per 7" reel (8 mm tape)

### PARTS TABLE

| PART      | ORDERING CODE    | AEC-Q101 QUALIFIED | CIRCUIT CONFIGURATION | TYPE MARKING | REMARKS       |
|-----------|------------------|--------------------|-----------------------|--------------|---------------|
| BAS70-02V | BAS70-02V-G3-08  | no                 | Single                | :X           | Tape and reel |
|           | BAS70-02V-HG3-08 | yes                |                       |              |               |

### ABSOLUTE MAXIMUM RATINGS (T<sub>amb</sub> = 25 °C, unless otherwise specified)

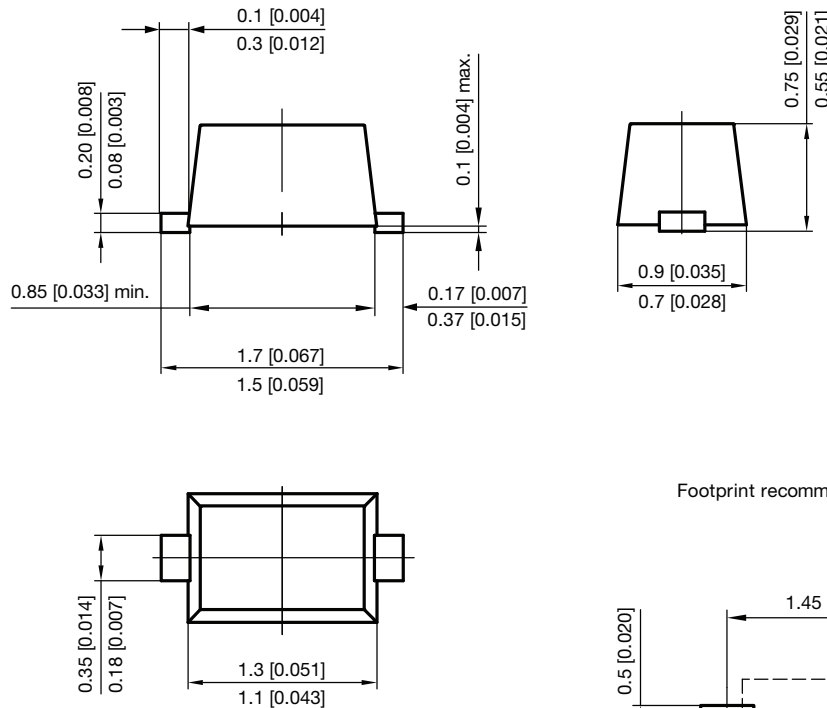
| PARAMETER                       | TEST CONDITION                                                            | SYMBOL           | VALUE | UNIT |
|---------------------------------|---------------------------------------------------------------------------|------------------|-------|------|
| Repetitive peak reverse voltage |                                                                           | V <sub>RRM</sub> | 70    | V    |
| Forward continuous current      |                                                                           | I <sub>F</sub>   | 100   | mA   |
| Surge forward current           | t <sub>p</sub> = 10 ms square wave, T <sub>j</sub> = 25 °C prior to surge | I <sub>FSM</sub> | 600   | mA   |
| Power dissipation               | on FR-4 board with recommended soldering footprint                        | P <sub>tot</sub> | 150   | mW   |

### THERMAL CHARACTERISTICS (T<sub>amb</sub> = 25 °C, unless otherwise specified)

| PARAMETER                                  | TEST CONDITION                                                              | SYMBOL            | VALUE       | UNIT |
|--------------------------------------------|-----------------------------------------------------------------------------|-------------------|-------------|------|
| Thermal resistance junction to ambient air | on FR-4 board according to JEDEC® 51-3 with recommended soldering footprint | R <sub>thJA</sub> | 680         | K/W  |
| Thermal resistance junction to lead        |                                                                             | R <sub>thJL</sub> | 480         | K/W  |
| Junction temperature                       |                                                                             | T <sub>j</sub>    | 125         | °C   |
| Operating temperature range                |                                                                             | T <sub>op</sub>   | -55 to +125 | °C   |
| Storage temperature range                  |                                                                             | T <sub>stg</sub>  | -65 to +150 | °C   |

### ELECTRICAL CHARACTERISTICS (T<sub>amb</sub> = 25 °C, unless otherwise specified)

| PARAMETER                 | TEST CONDITION                                                                                   | SYMBOL            | MIN. | TYP. | MAX. | UNIT |
|---------------------------|--------------------------------------------------------------------------------------------------|-------------------|------|------|------|------|
| Reverse breakdown voltage | I <sub>R</sub> = 10 µA (pulsed)                                                                  | V <sub>(BR)</sub> | 70   |      |      | V    |
| Leakage current           | V <sub>R</sub> = 50 V, t <sub>p</sub> < 300 µs                                                   | I <sub>R</sub>    |      | 20   | 100  | nA   |
| Forward voltage           | t <sub>p</sub> < 300 µs, I <sub>F</sub> = 1.0 mA                                                 | V <sub>F</sub>    |      |      | 410  | mV   |
|                           | t <sub>p</sub> < 300 µs, I <sub>F</sub> = 15 mA                                                  | V <sub>F</sub>    |      |      | 1000 | mV   |
| Diode capacitance         | V <sub>R</sub> = 0 V, f = 1 MHz                                                                  | C <sub>D</sub>    |      | 1.5  | 2    | pF   |
| Reverse recovery time     | I <sub>F</sub> = 10 mA, I <sub>R</sub> = 10 mA,<br>i <sub>R</sub> = 1 mA, R <sub>L</sub> = 100 Ω | t <sub>rr</sub>   |      |      | 5    | ns   |

**PACKAGE DIMENSIONS** in millimeters [inches]: **SOD-523**


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