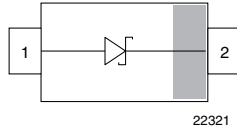
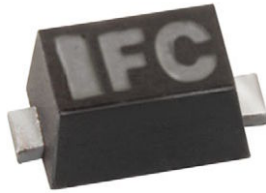




# Small Signal Schottky Diode



### 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
- Space saving SOD-523 package
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



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



### MECHANICAL DATA

**Case:** SOD-523

**Weight:** approx. 1.4 mg

**Molding compound flammability rating:** UL94 V-0

**Terminals:** high temperature soldering guaranteed:  
260 °C/4 x 10 s at terminals

**Packaging codes/options:**

18/10K per 13" reel (8 mm tape), 10K/box

08/3K per 7" reel (8 mm tape), 3K/box

| PARTS TABLE   |                                      |                       |              |               |
|---------------|--------------------------------------|-----------------------|--------------|---------------|
| PART          | ORDERING CODE                        | CIRCUIT CONFIGURATION | TYPE MARKING | REMARKS       |
| BAT54-02V-V-G | BAT54-02V-V-G-18 or BAT54-02V-V-G-08 | Single                | .V           | Tape and reel |

| ABSOLUTE MAXIMUM RATINGS (T <sub>amb</sub> = 25 °C, unless otherwise specified) |                |                  |       |      |
|---|----------------|------------------|-------|------|
| PARAMETER   | TEST CONDITION | SYMBOL           | VALUE | UNIT |
| Repetitive peak reverse voltage<br>= working peak reverse voltage               |                | V <sub>RRM</sub> | 30    | V    |
| Forward continuous current  |                | I <sub>F</sub>   | 200   | mA   |
| Repetitive peak forward current   |                | I <sub>FRM</sub> | 300   | mA   |
| Surge forward current   |                | I <sub>FSM</sub> | 600   | mA   |
| Power dissipation   |                | 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                                     |                | R <sub>thJA</sub> | 680         | K/W  |
| Junction temperature   |                | T <sub>j</sub>    | 125         | °C   |
| Storage temperature range  |                | T <sub>stg</sub>  | -65 to +150 | °C   |

| <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  | 100 $\mu\text{A}$ pulses   | $V_{(BR)}$ | 30   |      |      | V             |
| Leakage current  | Pulse test $t_p < 300\text{ }\mu\text{s}$ ,<br>$\delta < 2\%$ at $V_R = 25\text{ V}$             | $I_R$      |      |      | 2    | $\mu\text{A}$ |
| Forward voltage  | $I_F = 0.1\text{ mA}$ , $t_p < 300\text{ }\mu\text{s}$ , $\delta < 2\%$                          | $V_F$      |      |      | 240  | mV            |
|  | $I_F = 1\text{ mA}$ , $t_p < 300\text{ }\mu\text{s}$ , $\delta < 2\%$                            | $V_F$      |      |      | 320  | mV            |
|  | $I_F = 10\text{ mA}$ , $t_p < 300\text{ }\mu\text{s}$ , $\delta < 2\%$                           | $V_F$      |      |      | 400  | mV            |
|  | $I_F = 30\text{ mA}$ , $t_p < 300\text{ }\mu\text{s}$ , $\delta < 2\%$                           | $V_F$      |      |      | 500  | mV            |
|  | $I_F = 100\text{ mA}$ , $t_p < 300\text{ }\mu\text{s}$ , $\delta < 2\%$                          | $V_F$      |      |      | 800  | mV            |
| Diode capacitance  | $V_R = 1\text{ V}$ , $f = 1\text{ MHz}$  | $C_D$      |      |      | 10   | pF            |
| Reverse recovery time  | $I_F = 10\text{ mA}$ , $I_R = 10\text{ mA}$ ,<br>$i_R = 1\text{ mA}$ , $R_L = 100\text{ }\Omega$ | $t_{rr}$   |      |      | 5    | ns            |

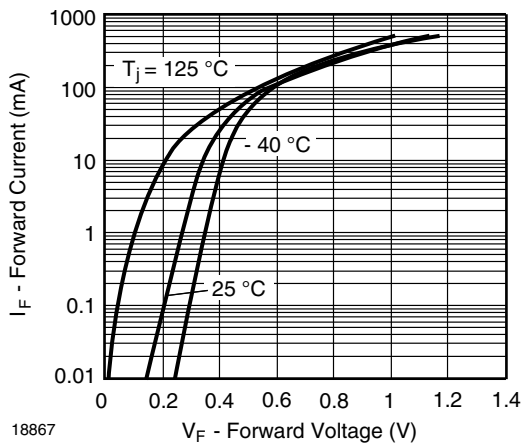
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)


Fig. 1 - Typical Forward Voltage Forward Current vs. Various Temperatures

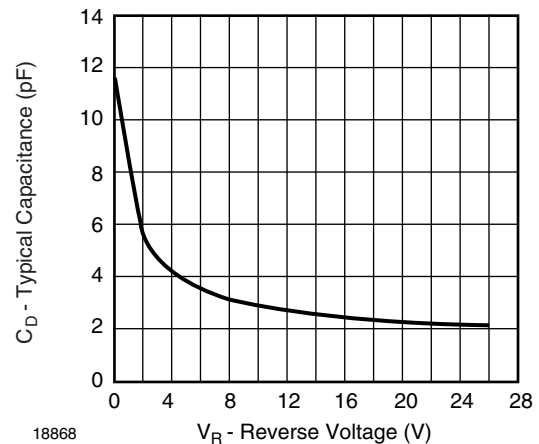
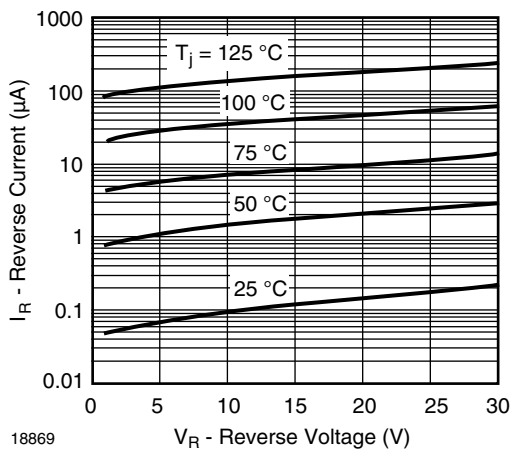
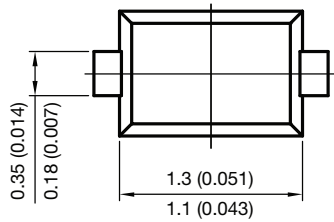
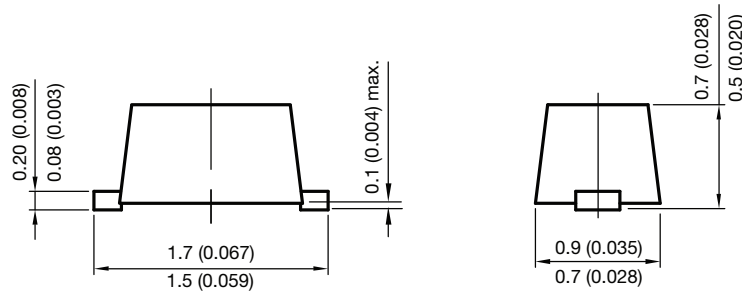

 Fig. 3 - Typical Capacitance vs. Reverse Applied Voltage  $V_R$ 


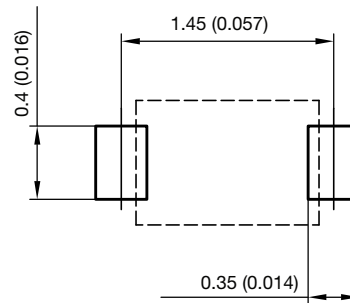
Fig. 2 - Typical Variation of Reverse Current vs. Various Temperatures



**PACKAGE DIMENSIONS** in millimeters (inches): **SOD-523**



foot print recommendation:



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