

## Small Signal Switching Diode



### FEATURES

- Silicon epitaxial planar diode
- Low forward voltage drop
- High forward current capability
- AEC-Q101 qualified
- Material categorization:  
For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
**HALOGEN**  
**FREE**

### APPLICATIONS

- High speed switch and general purpose use in computer and industrial applications

### MECHANICAL DATA

**Case:** DO-35

**Weight:** approx. 125 mg

**Cathode band color:** black

**Packaging codes/options:**

TR/10K per 13" reel (52 mm tape), 50K/box

TAP/10K per ammpack (52 mm tape), 50K/box

### PARTS TABLE

| PART  | ORDERING CODE         | TYPE MARKING | INTERNAL CONSTRUCTION | REMARKS               |
|-------|-----------------------|--------------|-----------------------|-----------------------|
| BAW27 | BAW27-TR or BAW27-TAP | BAW27        | Single diode          | Tape and reel/ammpack |

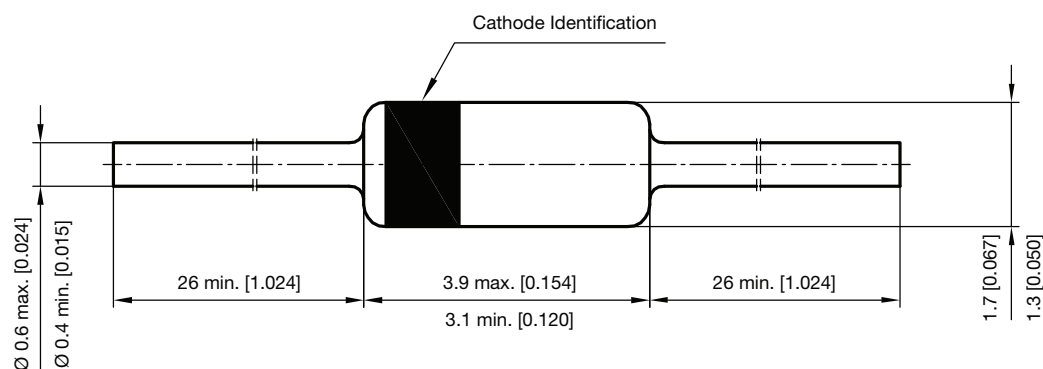
### ABSOLUTE MAXIMUM RATINGS ( $T_{amb} = 25^{\circ}\text{C}$ , unless otherwise specified)

| PARAMETER                       | TEST CONDITION                                  | SYMBOL      | VALUE | UNIT |
|---------------------------------|-------------------------------------------------|-------------|-------|------|
| Repetitive peak reverse voltage |                                                 | $V_{RRM}$   | 75    | V    |
| Reverse voltage                 |                                                 | $V_R$       | 60    | V    |
| Peak forward surge current      | $t_p = 1 \mu\text{s}$                           | $I_{FSM}$   | 4     | A    |
| Forward continuous current      |                                                 | $I_F$       | 600   | mA   |
| Average forward current         | $V_R = 0$                                       | $I_{F(AV)}$ | 300   | mA   |
| Power dissipation               | $l = 4 \text{ mm}, T_L = 45^{\circ}\text{C}$    | $P_{tot}$   | 440   | mW   |
|                                 | $l = 4 \text{ mm}, T_L \leq 25^{\circ}\text{C}$ | $P_{tot}$   | 500   | mW   |

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

| PARAMETER                                  | TEST CONDITION                            | SYMBOL     | VALUE         | UNIT               |
|--------------------------------------------|-------------------------------------------|------------|---------------|--------------------|
| Thermal resistance junction to ambient air | $l = 4 \text{ mm}, T_L = \text{constant}$ | $R_{thJA}$ | 350           | K/W                |
| Junction temperature                       |                                           | $T_j$      | 175           | $^{\circ}\text{C}$ |
| Storage temperature range                  |                                           | $T_{stg}$  | - 65 to + 175 | $^{\circ}\text{C}$ |

| <b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified) |                                                                          |            |      |       |       |               |
|----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|------------|------|-------|-------|---------------|
| PARAMETER                                                                                                | TEST CONDITION                                                           | SYMBOL     | MIN. | TYP.  | MAX.  | UNIT          |
| Forward voltage                                                                                          | $I_F = 10\text{ mA}$                                                     | $V_F$      |      | 0.670 | 0.750 | V             |
|                                                                                                          | $I_F = 50\text{ mA}$                                                     | $V_F$      |      | 800   | 850   | mV            |
|                                                                                                          | $I_F = 200\text{ mA}$                                                    | $V_F$      |      | 950   | 1000  | mV            |
|                                                                                                          | $I_F = 400\text{ mA}$                                                    | $V_F$      |      | 1120  | 1250  | mV            |
| Reverse current                                                                                          | $V_R = 60\text{ V}$                                                      | $I_R$      |      |       | 100   | nA            |
|                                                                                                          | $V_R = 60\text{ V}$ , $T_J = 100\text{ }^{\circ}\text{C}$                | $I_R$      |      |       | 50    | $\mu\text{A}$ |
| Breakdown voltage                                                                                        | $I_R = 5\text{ }\mu\text{A}$ , $t_p/T = 0.01$ ,<br>$t_p = 0.3\text{ ms}$ | $V_{(BR)}$ | 75   |       |       | V             |
| Diode capacitance                                                                                        | $V_R = 0\text{ V}$ , $f = 1\text{ MHz}$ ,<br>$V_{HF} = 50\text{ mV}$     | $C_D$      |      |       | 4     | pF            |
| Reverse recovery time                                                                                    | $I_F = I_R = 10\text{ mA}$ ,<br>$i_R = 0.1 \times I_R$                   | $t_{rr}$   |      |       | 6     | ns            |

**PACKAGE DIMENSIONS** in millimeters (inches): **DO-35**


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