

## Small Signal Switching Diode



### FEATURES

- Silicon epitaxial planar diode
- 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

- Extreme fast switches

### MECHANICAL DATA

**Case:** DO-35

**Weight:** approx. 125 mg

**Cathode band color:** black

**Packaging codes/options:**

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

### PARTS TABLE

| PART  | ORDERING CODE | TYPE MARKING | INTERNAL CONSTRUCTION | REMARKS |
|-------|---------------|--------------|-----------------------|---------|
| BAW75 | BAW75-TAP     | BAW75        | Single diode          | Ammpack |

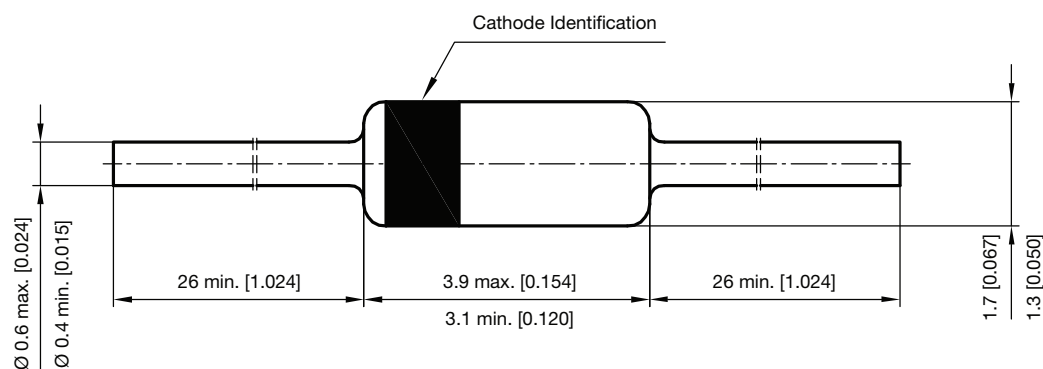
### ABSOLUTE MAXIMUM RATINGS (T<sub>amb</sub> = 25 °C, unless otherwise specified)

| PARAMETER                       | TEST CONDITION                   | SYMBOL             | VALUE | UNIT |
|---------------------------------|----------------------------------|--------------------|-------|------|
| Repetitive peak reverse voltage |                                  | V <sub>RRM</sub>   | 35    | V    |
| Reverse voltage                 |                                  | V <sub>R</sub>     | 25    | V    |
| Peak forward surge current      | t <sub>p</sub> = 1 μs            | I <sub>FSM</sub>   | 2     | A    |
| Repetitive peak forward current |                                  | I <sub>FRM</sub>   | 450   | mA   |
| Forward continuous current      |                                  | I <sub>F</sub>     | 300   | mA   |
| Average forward current         | V <sub>R</sub> = 0               | I <sub>F(AV)</sub> | 150   | mA   |
| Power dissipation               | l = 4 mm, T <sub>L</sub> = 45 °C | P <sub>tot</sub>   | 440   | mW   |
|                                 | l = 4 mm, T <sub>L</sub> ≤ 25 °C | P <sub>tot</sub>   | 500   | mW   |

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

| PARAMETER                                  | TEST CONDITION                      | SYMBOL            | VALUE         | UNIT |
|--------------------------------------------|-------------------------------------|-------------------|---------------|------|
| Thermal resistance junction to ambient air | l = 4 mm, T <sub>L</sub> = constant | R <sub>thJA</sub> | 350           | K/W  |
| Junction temperature                       |                                     | T <sub>j</sub>    | 175           | °C   |
| Storage temperature range                  |                                     | T <sub>stg</sub>  | - 65 to + 175 | °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                                                                                          | $I_F = 30\text{ mA}$                                                                    | $V_F$      |      |      | 1    | V             |
| Reverse current                                                                                          | $V_R = 25\text{ V}$                                                                     | $I_R$      |      |      | 100  | nA            |
|                                                                                                          | $V_R = 25\text{ V}, T_J = 150\text{ }^{\circ}\text{C}$                                  | $I_R$      |      |      | 100  | $\mu\text{A}$ |
| Breakdown voltage                                                                                        | $I_R = 5\text{ }\mu\text{A}, t_p/T = 0.01,$<br>$t_p = 0.3\text{ ms}$                    | $V_{(BR)}$ | 35   |      |      | 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                                                                                    | $I_F = I_R = 10\text{ mA}, i_R = 1\text{ mA}$                                           | $t_{rr}$   |      |      | 4    | ns            |
|                                                                                                          | $I_F = 10\text{ mA}, V_R = 6\text{ V},$<br>$i_R = 1\text{ mA}, R_L = 100\text{ }\Omega$ | $t_{rr}$   |      |      | 2    | ns            |

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


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