



# Small Signal Fast Switching Diode



### FEATURES

- Silicon epitaxial planar diode
- For general purpose and switching
- AEC-Q101 qualified available
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS COMPLIANT

### DESIGN SUPPORT TOOLS

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### MECHANICAL DATA

Case: SOD-123

Weight: approx. 10.3 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                    | TYPE MARKING | CIRCUIT CONFIGURATION | REMARKS       |
| 1N4150W     | 1N4150W-E3-08 or 1N4150W-E3-18   | A4           | Single                | Tape and reel |
|             | 1N4150W-HE3-08 or 1N4150W-HE3-18 |              |                       |               |

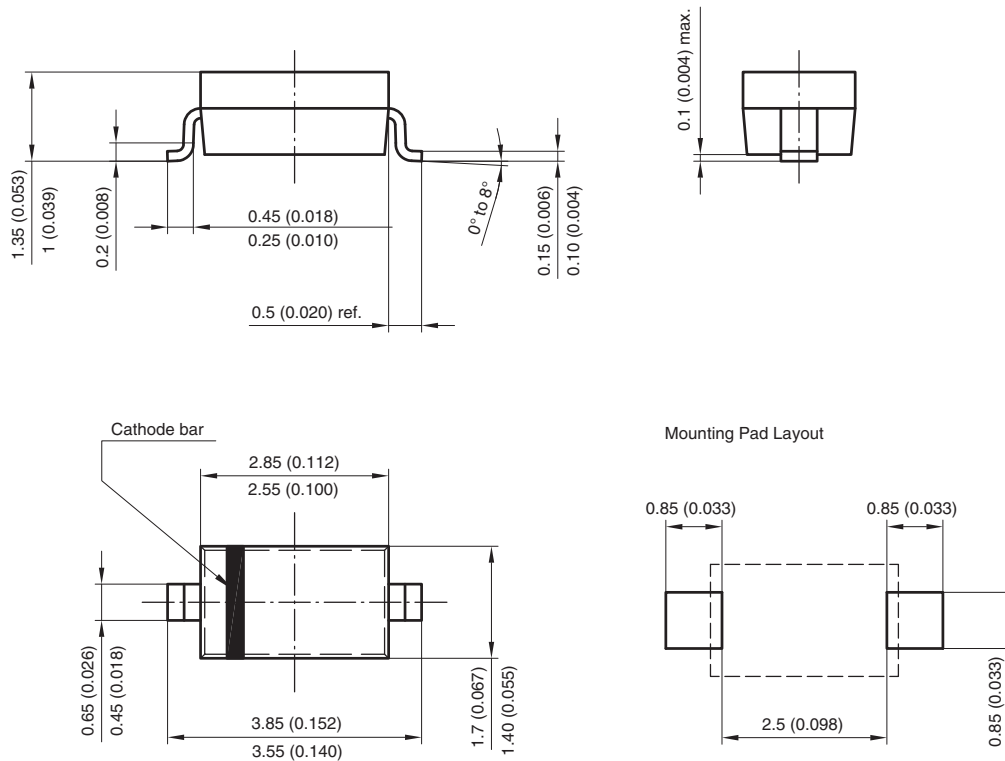
| ABSOLUTE MAXIMUM RATINGS (T <sub>amb</sub> = 25 °C, unless otherwise specified) |                |                    |       |      |
|---------------------------------------------------------------------------------|----------------|--------------------|-------|------|
| PARAMETER                                                                       | TEST CONDITION | SYMBOL             | VALUE | UNIT |
| Repetitive peak reverse voltage                                                 |                | V <sub>RRM</sub>   | 50    | V    |
| Maximum average forward rectified current                                       |                | I <sub>F(AV)</sub> | 200   | mA   |
| Maximum power dissipation <sup>(1)</sup>                                        |                | P <sub>tot</sub>   | 410   | mW   |

| THERMAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified) |                |                   |             |      |
|--------------------------------------------------------------------------------|----------------|-------------------|-------------|------|
| PARAMETER                                                                      | TEST CONDITION | SYMBOL            | VALUE       | UNIT |
| Thermal resistance junction to ambient air <sup>(1)</sup>                      |                | R <sub>thJA</sub> | 375         | K/W  |
| Maximum junction temperature                                                   |                | T <sub>j</sub>    | 150         | °C   |
| Storage temperature range                                                      |                | T <sub>stg</sub>  | -65 to +150 | °C   |
| Operating temperature range                                                    |                | T <sub>op</sub>   | -55 to +150 | °C   |

#### Note

<sup>(1)</sup> Valid provided that electrodes are kept at ambient temperature

| <b>ELECTRICAL CHARACTERISTICS</b> ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified) |                                                                                               |          |       |      |       |               |
|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|----------|-------|------|-------|---------------|
| PARAMETER                                                                                                | TEST CONDITION                                                                                | SYMBOL   | MIN.  | TYP. | MAX.  | UNIT          |
| Forward voltage                                                                                          | $I_F = 1\text{ mA}$                                                                           | $V_F$    | 0.540 |      | 0.620 | V             |
|                                                                                                          | $I_F = 10\text{ mA}$                                                                          | $V_F$    | 0.660 |      | 0.740 | V             |
|                                                                                                          | $I_F = 50\text{ mA}$                                                                          | $V_F$    | 0.760 |      | 0.860 | V             |
|                                                                                                          | $I_F = 100\text{ mA}$                                                                         | $V_F$    | 0.820 |      | 0.920 | V             |
|                                                                                                          | $I_F = 200\text{ mA}$                                                                         | $V_F$    | 0.870 |      | 1     | V             |
| Reverse current                                                                                          | $V_R = 50\text{ V}$                                                                           | $I_R$    |       |      | 100   | nA            |
|                                                                                                          | $V_R = 50\text{ V}, T_j = 150\text{ }^{\circ}\text{C}$                                        | $I_R$    |       |      | 100   | $\mu\text{A}$ |
| Diode capacitance                                                                                        | $V_R = 0, f = 1\text{ MHz}, V_{HF} = 50\text{ mV}$                                            | $C_D$    |       |      | 2.5   | pF            |
| Reverse recovery time                                                                                    | $I_F = I_R = (10\text{ to }100)\text{ mA}$<br>$i_R = 0.1 \times I_R, R_L = 100\text{ }\Omega$ | $t_{rr}$ |       |      | 4     | ns            |

**PACKAGE DIMENSIONS** in millimeters (inches): **SOD-123**


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