

Small Signal Schottky Diode



DESIGN SUPPORT TOOLS click logo to get started



MECHANICAL DATA

Case: SOD-323

Weight: approx. 4.3 mg

Packaging codes/options:

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

08/3K per 7" reel (8 mm tape), 15K/box

FEATURES

- Schottky diode for high-speed switching
- Circuit protection
- Voltage clamping
- High-level detecting and mixing
- 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



RoHS
COMPLIANT

PARTS TABLE

| PART | ORDERING CODE | CIRCUIT CONFIGURATION | TYPE MARKING | REMARKS |
|----------|------------------------------------|-----------------------|--------------|---------------|
| BAS170WS | BAS170WS-E3-08 or BAS170WS-E3-18 | Single | 73 | Tape and reel |
| | BAS170WS-HE3-08 or BAS170WS-HE3-18 | | | |

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

| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
|----------------------------------|--------------------|-----------|-------|------|
| Repetitive peak reverse voltage | | V_{RRM} | 70 | V |
| Forward continuous current | | I_F | 70 | mA |
| Surge forward current | $t_p < 1\text{ s}$ | I_{FSM} | 600 | mA |
| Power dissipation ⁽¹⁾ | | P_{tot} | 200 | mW |

Note

⁽¹⁾ Valid provided that electrodes are kept at ambient temperature

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

| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
|---|----------------|------------|-------------|--------------------|
| Thermal resistance junction to ambient air ⁽¹⁾ | | R_{thJA} | 650 | K/W |
| Junction temperature | | T_j | 125 | $^{\circ}\text{C}$ |
| Operating temperature range | | T_{op} | -55 to +125 | $^{\circ}\text{C}$ |
| Storage temperature range | | T_{stg} | -65 to +150 | $^{\circ}\text{C}$ |

Note

⁽¹⁾ Valid provided that electrodes are kept at ambient temperature

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

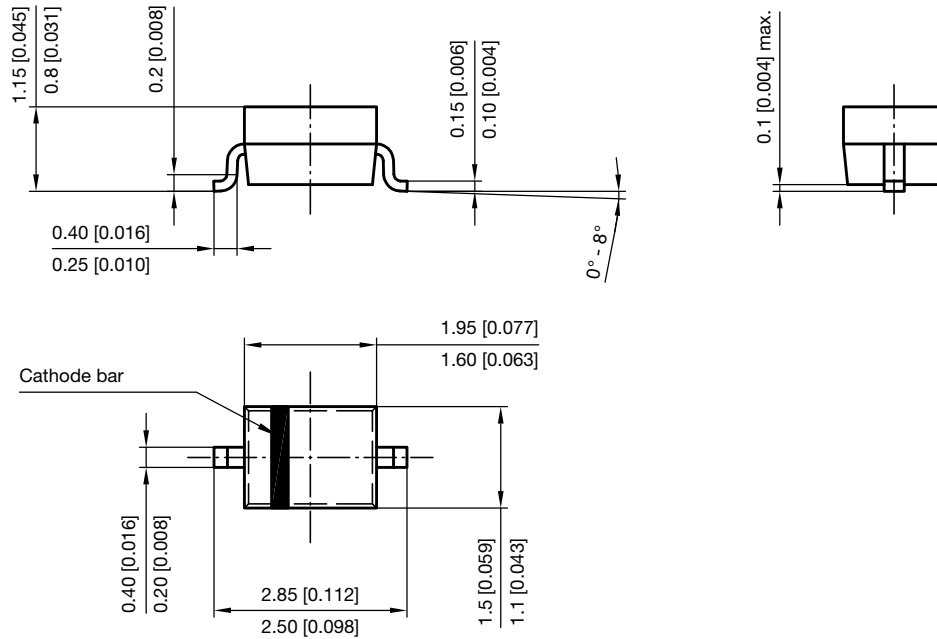
| PARAMETER | TEST CONDITION | SYMBOL | MIN. | TYP. | MAX. | UNIT |
|---------------------------------|---|------------|------|------|------|---------------|
| Reverse breakdown voltage | $I_R = 10\text{ }\mu\text{A}$ (pulsed) | $V_{(BR)}$ | 70 | | | V |
| Leakage current | $V_R = 50\text{ V}$ | I_R | | | 0.1 | μA |
| | $V_R = 70\text{ V}$ | I_R | | | 10 | μA |
| Forward voltage | $I_F = 1\text{ mA}$ | V_F | | 375 | 410 | mV |
| | $I_F = 10\text{ mA}$ | V_F | | 705 | 750 | mV |
| Forward voltage ⁽¹⁾ | $I_F = 15\text{ mA}$ | V_F | | 880 | 1000 | mV |
| Diode capacitance | $V_R = 0\text{ V}$, $f = 1\text{ MHz}$ | C_D | | 1.5 | 2 | pF |
| Differential forward resistance | $I_F = 5\text{ mA}$, $f = 10\text{ kHz}$ | r_f | | 34 | | Ω |

Note

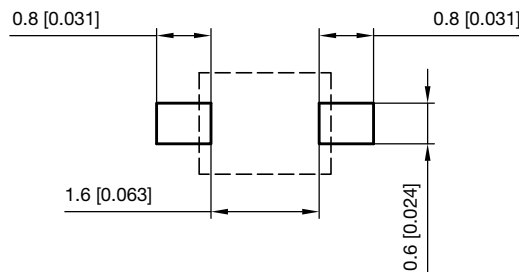
⁽¹⁾ Pulse test; $t_p \leq 300\text{ }\mu\text{s}$



PACKAGE DIMENSIONS in millimeters (inches): SOD-323



Footprint recommendation:



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 17443



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