

Band Switching Diodes



FEATURES

- Silicon epitaxial planar diode switches
- AEC-Q101 qualified
- 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

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

DESCRIPTION

For electric bandswitching in radio and TV tuners in the frequency range of (50 to 1000) MHz. The dynamic forward resistance is constant and very small over a wide range of frequency and forward current. The reverse capacitance is also small and largely independent of the reverse voltage.

| PARTS TABLE | | | |
|-------------|--------------------------------|--------------|---------------|
| PART | ORDERING CODE | TYPE MARKING | REMARKS |
| BA782S | BA782S-E3-08 or BA782S-E3-18 | R2 | Tape and reel |
| | BA782S-HE3-08 or BA782S-HE3-18 | | |
| BA783S | BA783S-E3-08 or BA783S-E3-18 | R3 | Tape and reel |
| | BA783S-HE3-08 or BA783S-HE3-18 | | |

| ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified) | | | | |
|---|-----------------|--------|-------|------|
| PARAMETER | TEST CONDITIONS | SYMBOL | VALUE | UNIT |
| Reverse voltage | | V_R | 35 | V |
| Forward continuous current | | I_F | 100 | mA |

| THERMAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified) | | | | |
|--|----------------|-----------|---------------|--------------------|
| PARAMETER | TEST CONDITION | SYMBOL | VALUE | UNIT |
| Junction temperature | | T_j | 125 | $^{\circ}\text{C}$ |
| Storage temperature range | | T_{stg} | - 55 to + 150 | $^{\circ}\text{C}$ |
| Operating temperature range | | T_{op} | - 55 to + 125 | $^{\circ}\text{C}$ |

| ELECTRICAL CHARACTERISTICS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified) | | | | | | | |
|---|--|--------|----------|------|------|------|----------|
| PARAMETER | TEST CONDITION | PART | SYMBOL | MIN. | TYP. | MAX. | UNIT |
| Forward voltage | $I_F = 100\text{ mA}$ | | V_F | | | 1000 | mV |
| Reverse current | $V_R = 20\text{ V}$ | | I_R | | | 50 | nA |
| Diode capacitance | $f = 1\text{ MHz}, V_R = 1\text{ V}$ | | C_{D1} | | | 1.5 | pF |
| | $f = 1\text{ MHz}, V_R = 3\text{ V}$ | BA782S | C_{D2} | | | 1.25 | pF |
| Dynamic forward resistance | $f = (50\text{ to }1000)\text{ MHz}, I_F = 3\text{ mA}$ | BA782S | r_{f1} | | | 0.7 | Ω |
| | | BA783S | r_{f1} | | | 1.2 | Ω |
| | $f = (50\text{ to }1000)\text{ MHz}, I_F = 10\text{ mA}$ | BA782S | r_{f2} | | | 0.5 | Ω |
| | | BA783S | r_{f2} | | | 0.9 | Ω |
| Series inductance across case | | | L_S | | 2.5 | | nH |

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

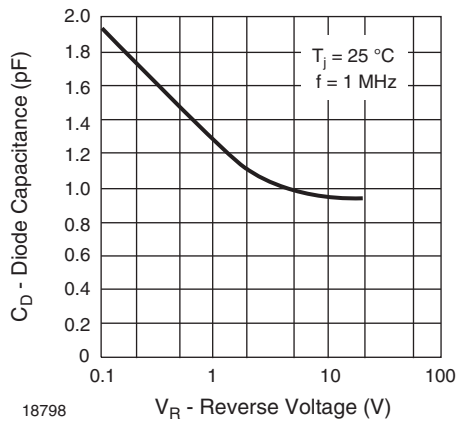


Fig. 1 - Diode Capacitance

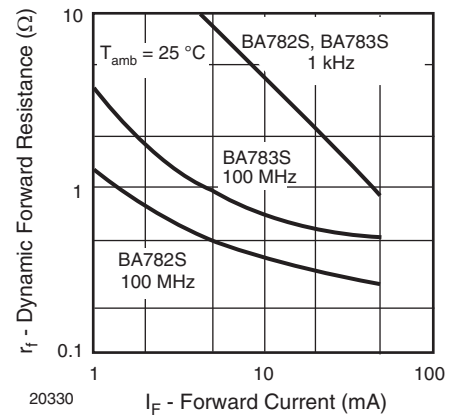
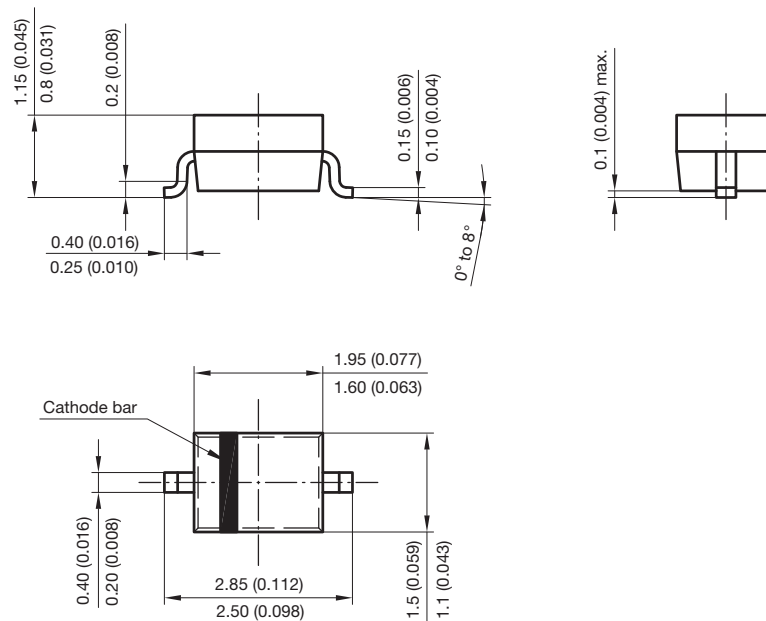
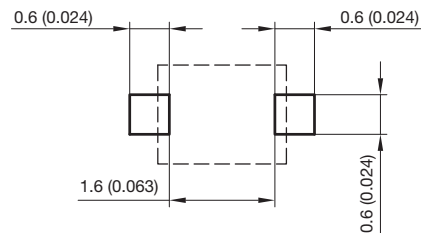


Fig. 2 - Dynamic Forward Resistance vs. Forward Current

PACKAGE DIMENSIONS in millimeters (inches): **SOD-323**



Foot print recommendation:



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17443



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