

## 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](http://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	$\Omega$
		BA783S	$r_{f1}$			1.2	$\Omega$
	$f = (50\text{ to }1000)\text{ MHz}, I_F = 10\text{ mA}$	BA782S	$r_{f2}$			0.5	$\Omega$
		BA783S	$r_{f2}$			0.9	$\Omega$
Series inductance across case			$L_S$		2.5		nH

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

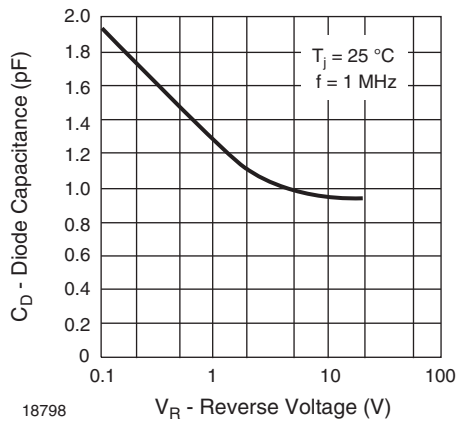


Fig. 1 - Diode Capacitance

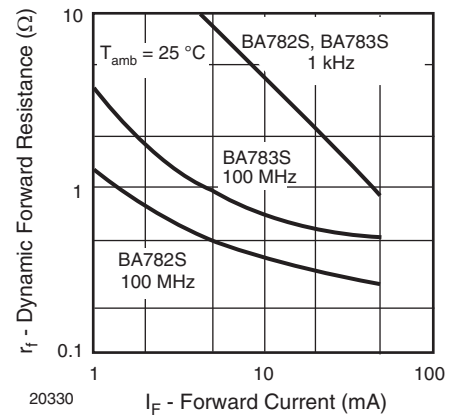
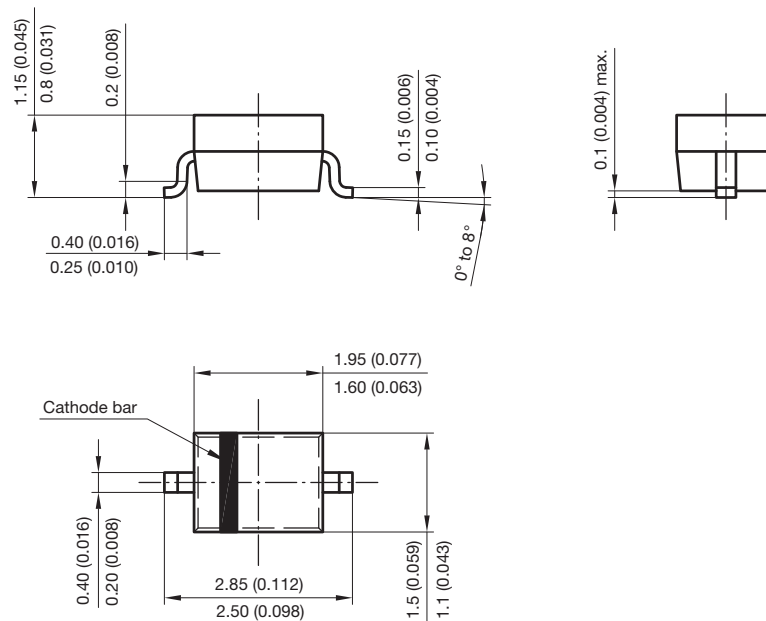
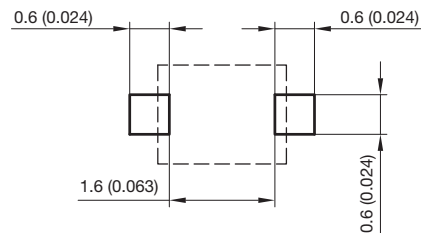


Fig. 2 - Dynamic Forward Resistance vs. Forward Current

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



Foot print recommendation:



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17443



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