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

Pb-free

e3

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 °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 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Junction temperature		T_j	125	°C
Storage temperature range		T_{stg}	- 55 to + 150	°C
Operating temperature range		T_{op}	- 55 to + 125	°C

ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	I_F = 100 mA		V_F			1000	mV
Reverse current	V_R = 20 V		I_R			50	nA
Diode capacitance	f = 1 MHz, V_R = 1 V		C_{D1}			1.5	pF
	f = 1 MHz, V_R = 3 V	BA782S	C_{D2}			1.25	pF
		BA783S	C_{D2}			1.2	pF
Dynamic forward resistance	f = (50 to 1000) MHz, I_F = 3 mA	BA782S	r_{f1}			0.7	Ω
		BA783S	r_{f1}			1.2	Ω
	f = (50 to 1000) MHz, I_F = 10 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 °C, unless otherwise specified)

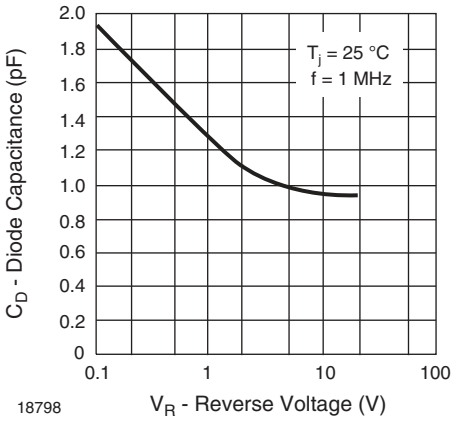


Fig. 1 - Diode Capacitance

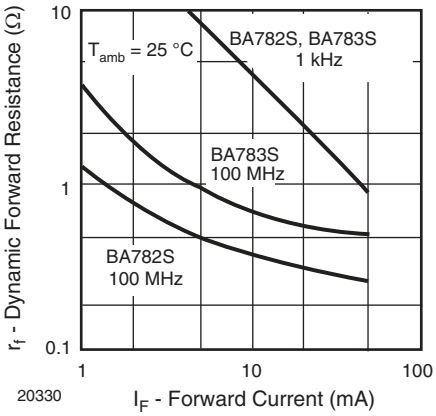
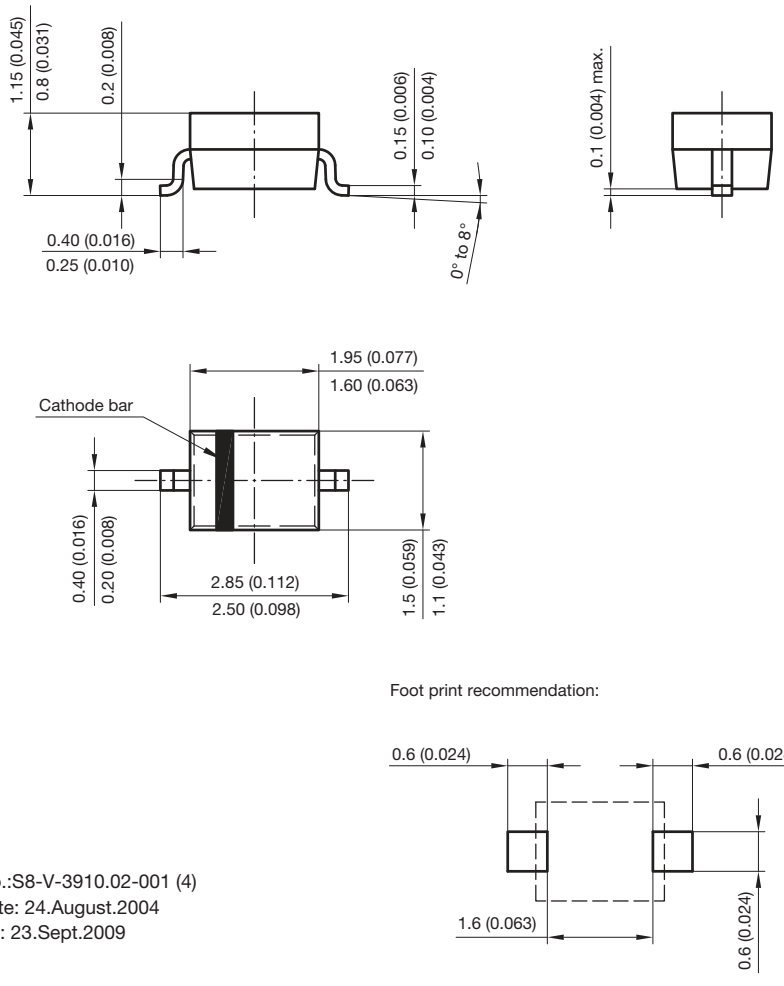


Fig. 2 - Dynamic Forward Resistance vs. Forward Current

PACKAGE DIMENSIONS in millimeters (inches): SOD-323



Foot print recommendation:

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