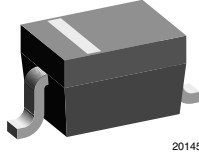


## Band Switching Diodes



20145

### MECHANICAL DATA

**Case:** SOD323

**Weight:** approx. 4.3 mg

**Packaging codes/options:**

GS18/10K per 13" reel (8 mm tape), 10K/box

GS08/3K per 7" reel (8 mm tape), 15K/box

### FEATURES

- These diodes are also available in SOD123 case with the type designations BA782-V and BA783-V
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC


**RoHS**  
COMPLIANT

### DESCRIPTION

Silicon epitaxial planar diode switches

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-V	BA782S-V-GS18 or BA782S-V-GS08	R2	Tape and reel
BA783S-V	BA783S-V-GS18 or BA783S-V-GS08	R3	Tape and reel

### ABSOLUTE MAXIMUM RATINGS <sup>(1)</sup>

PARAMETER	TEST CONDITIONS	SYMBOL	VALUE	UNIT
Reverse voltage		$V_R$	35	V
Forward continuous current	$T_{amb} = 25\text{ }^\circ\text{C}$	$I_F$	100	mA

**Note**
<sup>(1)</sup>  $T_{amb} = 25\text{ }^\circ\text{C}$ , unless otherwise specified

### THERMAL CHARACTERISTICS <sup>(1)</sup>

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Junction temperature		$T_j$	125	$^\circ\text{C}$
Storage temperature range		$T_{stg}$	- 55 to + 125	$^\circ\text{C}$

**Note**
<sup>(1)</sup>  $T_{amb} = 25\text{ }^\circ\text{C}$ , unless otherwise specified

### ELECTRICAL CHARACTERISTICS <sup>(1)</sup>

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-V	$C_{D2}$			1.25	pF
		BA783S-V	$C_{D2}$			1.2	pF
Dynamic forward resistance	$f = (50\text{ to }1000)\text{ MHz}, I_F = 3\text{ mA}$	BA782S-V	$r_{f1}$			0.7	$\Omega$
		BA783S-V	$r_{f1}$			1.2	$\Omega$
	$f = (50\text{ to }1000)\text{ MHz}, I_F = 10\text{ mA}$	BA782S-V	$r_{f2}$			0.5	$\Omega$
		BA783S-V	$r_{f2}$			0.9	$\Omega$
Series inductance across case			$L_S$		2.5	nH	

**Note**
<sup>(1)</sup>  $T_{amb} = 25\text{ }^\circ\text{C}$ , unless otherwise specified

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

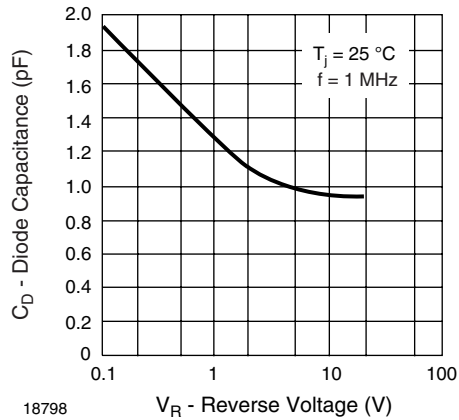


Fig. 1 - Diode Capacitance

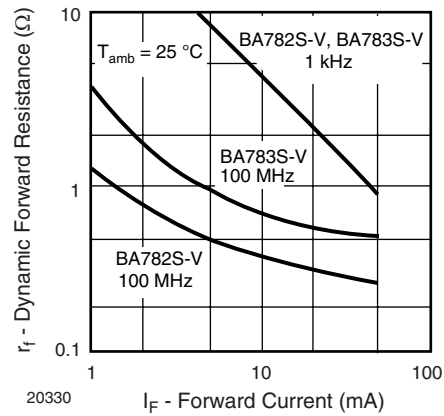
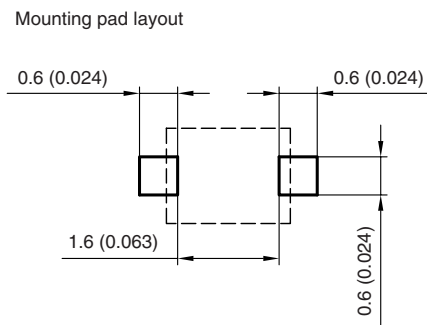
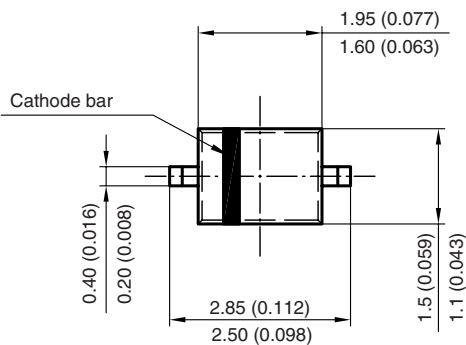
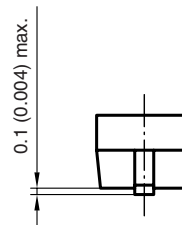
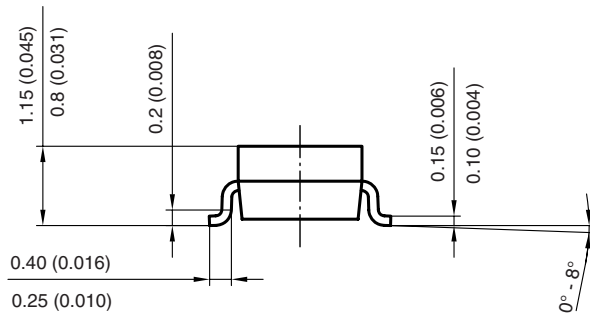


Fig. 2 - Dynamic Forward Resistance vs. Forward Current

**PACKAGE DIMENSIONS** in millimeters (inches): **SOD323**



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 17443



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