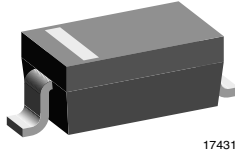


## Band Switching Diodes



### MECHANICAL DATA

**Case:** SOD-123

**Weight:** approx. 10.3 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 SOD-323 case with the type designations BA782S-V and BA783S-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
BA782-V	BA782-V-GS18 or BA782-V-GS08	R2	Tape and reel
BA783-V	BA783-V-GS18 or BA783-V-GS08	R3	Tape and reel

### 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	$^{\circ}\text{C}$

### 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
	$f = 1\text{ MHz}, V_R = 3\text{ V}$	BA782-V	$C_{D2}$			1.25	pF
Dynamic forward resistance	$f = (50\text{ to }1000)\text{ MHz}, I_F = 3\text{ mA}$	BA783-V	$C_{D2}$			1.2	pF
		BA782-V	$r_{f1}$			0.7	$\Omega$
	$f = (50\text{ to }1000)\text{ MHz}, I_F = 10\text{ mA}$	BA783-V	$r_{f1}$			1.2	$\Omega$
		BA782-V	$r_{f2}$			0.5	$\Omega$
Series inductance across case		BA783-V	$r_{f2}$			0.9	$\Omega$
			$L_S$		2.5		nH

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

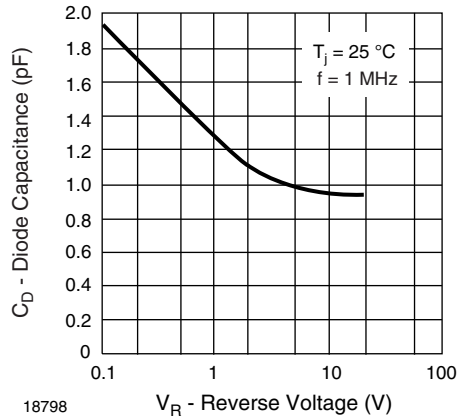


Fig. 1 - Diode Capacitance

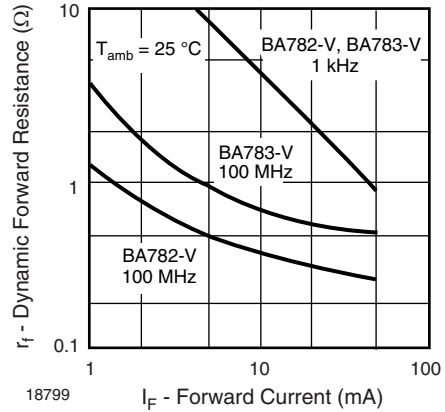
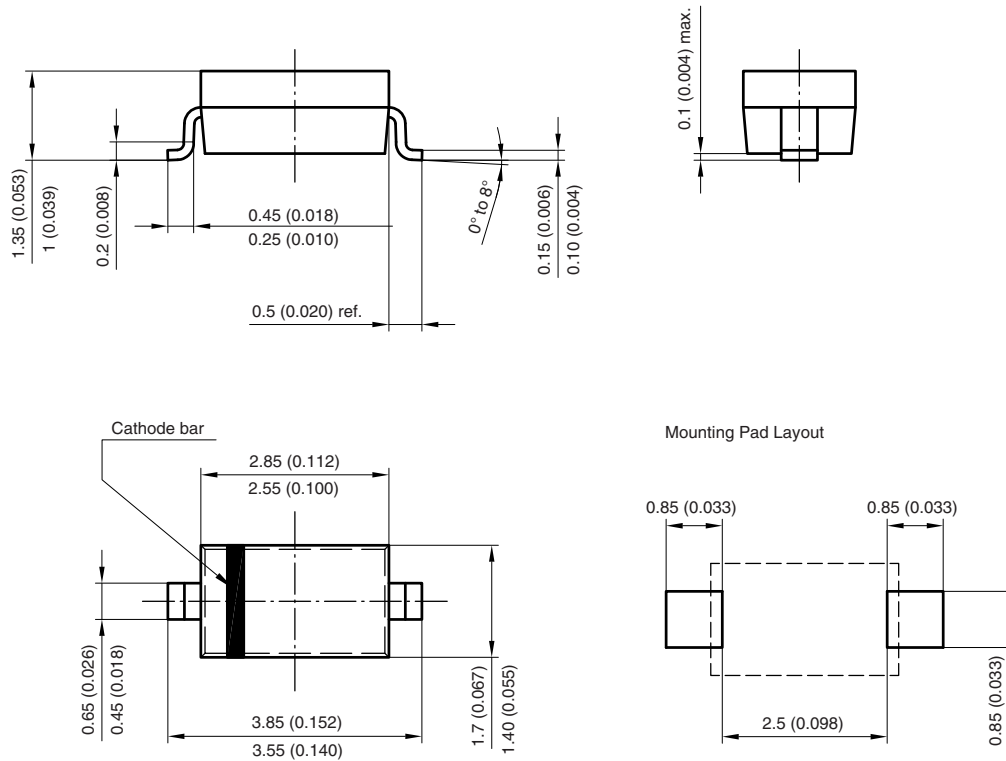


Fig. 2 - Dynamic Forward Resistance vs. Forward Current

**PACKAGE DIMENSIONS** in millimeters (inches): **SOD-123**



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 Document no.: S8-V-3910.01-001 (4)  
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