

# Vishay Semiconductors

## **Band Switching Diodes**



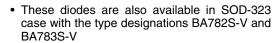
#### **MECHANICAL DATA**

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**





· 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 <sub>amb</sub> = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITIONS	SYMBOL	VALUE	UNIT
Reverse voltage		$V_{R}$	35	V
Forward continuous current		I <sub>F</sub>	100	mA

THERMAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Junction temperature		Tj	125	°C
Storage temperature range		T <sub>stg</sub>	- 55 to + 150	°C

<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward voltage	I <sub>F</sub> = 100 mA		V <sub>F</sub>			1000	mV
Reverse current	V <sub>R</sub> = 20 V		I <sub>R</sub>			50	nA
Diode capacitance	f = 1 MHz, V <sub>R</sub> = 1 V		C <sub>D1</sub>			1.5	pF
	f = 1 MHz, V <sub>R</sub> = 3 V	BA782-V	C <sub>D2</sub>			1.25	pF
		BA783-V	C <sub>D2</sub>			1.2	pF
Dynamic forward resistance	f = (50 to 1000) MHz, I <sub>F</sub> = 3 mA	BA782-V	r <sub>f1</sub>			0.7	Ω
		BA783-V	r <sub>f1</sub>			1.2	Ω
	f = (50 to 1000) MHz, I <sub>F</sub> = 10 mA	BA782-V	r <sub>f2</sub>			0.5	Ω
		BA783-V	r <sub>f2</sub>			0.9	Ω
Series inductance across case			L <sub>S</sub>		2.5		nΗ

## **Band Switching Diodes**



## TYPICAL CHARACTERISTICS T<sub>amb</sub> = 25 °C, unless otherwise specified

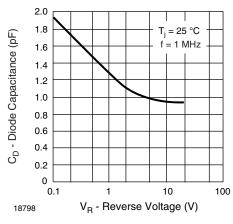


Fig. 1 - Diode Capacitance

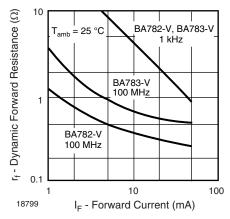
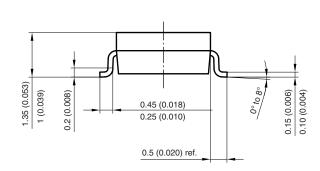
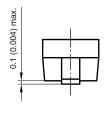


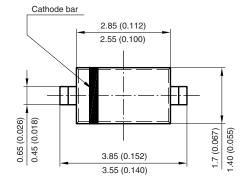
Fig. 2 - Dynamic Forward Resistance vs. Forward Current

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





Mounting Pad Layout



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