Vishay Semiconductors



MECHANICAL DATA

Weight: approx. 10.3 mg

Packaging codes/options:

18/10K per 13" reel (8 mm tape), 10K/box

08/3K per 7" reel (8 mm tape), 15K/box

Case: SOD-123

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 <u>www.vishay.com/doc?99912</u>

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	
BA782	BA782-E3-08 or BA782-E3-18	R2	Topo and real	
	BA782-HE3-08 or BA782-HE3-18	n2	Tape and reel	
BA783	BA783-E3-08 or BA783-E3-18	R3	Tape and reel	
	BA783-HE3-08 or BA783-HE3-18	R3		

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITIONS	SYMBOL	DL VALUE U		
Reverse voltage		V _R	35	V	
Forward continuous current		١ _F	100	mA	

THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	SYMBOL VALUE U		
Junction temperature		Tj	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	BA782	C _{D2}			1.25	pF
		BA783	C _{D2}			1.2	pF
Dynamic forward resistance	f = (50 to 1000) MHz, $I_F = 3 \text{ mA}$	BA782	r _{f1}			0.7	Ω
		BA783	r _{f1}			1.2	Ω
	f = (50 to 1000) MHz, I _F = 10 mA	BA782	r _{f2}			0.5	Ω
		BA783	r _{f2}			0.9	Ω
Series inductance across case			L _S		2.5		nH

Rev. 1.5, 25-Feb-13

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Document Number: 85708

For technical questions within your region: <u>DiodesAmericas@vishay.com</u>, <u>DiodesAsia@vishay.com</u>, <u>DiodesEurope@vishay.com</u> THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT <u>www.vishay.com/doc?91000</u>



Pb-free

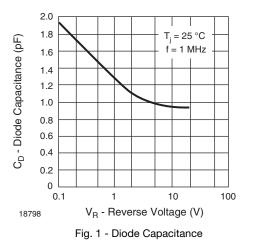
RoHS

COMPLIANT



Vishay Semiconductors

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



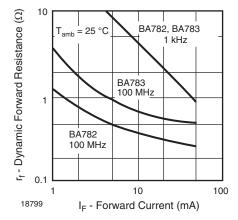
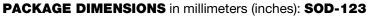
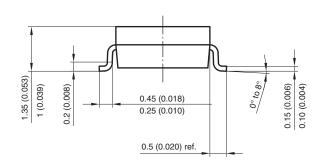
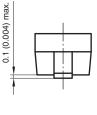
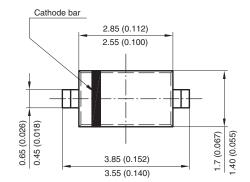


Fig. 2 - Dynamic Forward Resistance vs. Forward Current

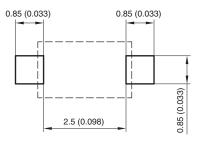








Mounting Pad Layout



Rev. 4 - Date: 24. Sep. 2009 Document no.: S8-V-3910.01-001 (4) 17432

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Document Number: 85708

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