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# SAW Components

SAW filter

WLAN

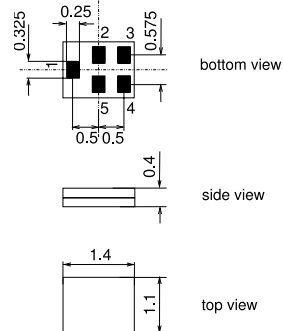
<b>Series/type:</b>	<b>B8312</b>
<b>Ordering code:</b>	<b>B39252B8312P810</b>
Date:	November 20, 2012
Version:	2.2


**Application**

- Low-loss RF filter for WLAN
- 50  $\Omega$  / 50  $\Omega$  unbalanced to unbalanced operation
- Low insertion attenuation
- Usable passband 93 MHz


**Features**

- Package size 1.4 x 1.1 x 0.4 mm<sup>3</sup>
- RoHS compatible
- Approximate weight 0.003 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- **Moisture Sensitivity Level 3**


**Pin Configuration**

- 1 Input unbalanced
- 4 Output unbalanced
- 2,3,5 To be grounded

**Data Sheet**

**Characteristics of Filter**

Temperature range for specification:  $T = -30\text{ °C to }+85\text{ °C}$   
 Terminating input impedance:  $Z_S = 50\Omega$   
 Terminating output impedance:  $Z_L = 50\Omega \parallel 2.0\text{ nH}$

		<b>B8312</b>			
		<b>min.</b>	<b>typ. @ 25 °C</b>	<b>max.</b>	
<b>Center frequency</b>	$f_C$	—	2446.5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$				
2400.0 ... 2493.0 MHz		—	2.0	2.5	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
2400.0 ... 2493.0 MHz		—	0.5	1.0	dB
<b>VSWR (Input and Output)</b>					
2400.0 ... 2493.0 MHz		—	1.7	2.0 <sup>1)</sup>	
2400.0 ... 2493.0 MHz		—	1.7	2.1	
<b>Attenuation</b>	$\alpha$				
50.0 ... 1511.0 MHz		40	45	—	dB
1511.0 ... 1880.0 MHz		36	40	—	dB
1880.0 ... 2110.0 MHz		30	40	—	dB
2110.0 ... 2170.0 MHz		30	35	—	dB
4800.0 ... 4986.0 MHz		27	35	—	dB
7200.0 ... 7479.0 MHz		—	20	—	dB

<sup>1)</sup> At 25 °C

**Data Sheet**

**Maximum ratings of Filter**

Operable temperature range	T	-30/+85	°C	
Storage temperature range	T <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	3 <sup>1)</sup>	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>2)</sup>	V	machine model
	V <sub>HBM</sub>	400 <sup>3)</sup>	V	human body model
	V <sub>CDM</sub>	600 <sup>4)</sup>	V	charge device model
Input power at 2400.0 ... 2493.0 MHz	P <sub>IN</sub>	23	dBm	CW signal, +65°C 2000hr

1) Bias voltage applied at pin 1 requires additional DC-blocking due to a shunt inductor to ground integrated inside filter

2) acc. to JESD22-A115B (machine model, 10 negative and 10 positive pulses)

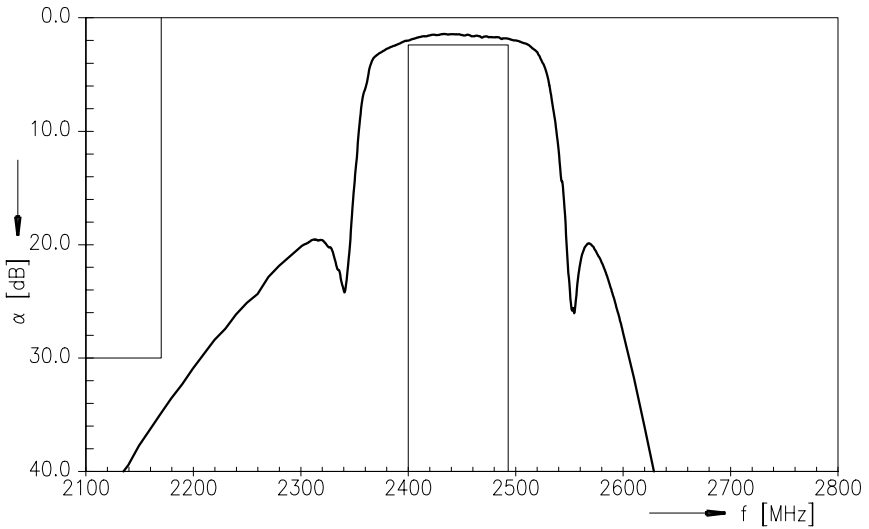
3) acc. to JESD22-A114F (human body model, 1 negative and 1 positive pulses)

4) acc. to JESD22-C101E (filled induced charged device model, 3 negative and 3 positive pulses)

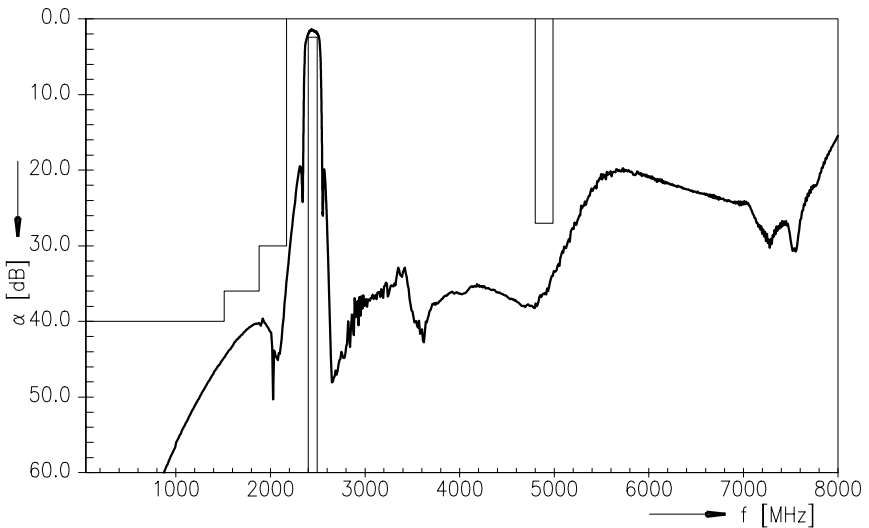
Data Sheet



**Transfer Function**



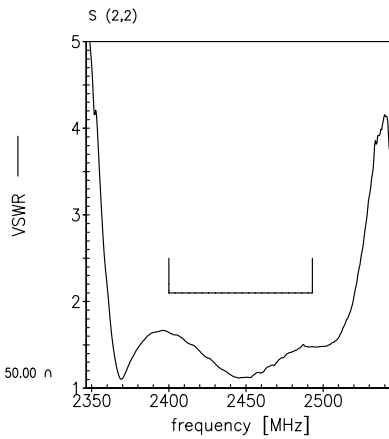
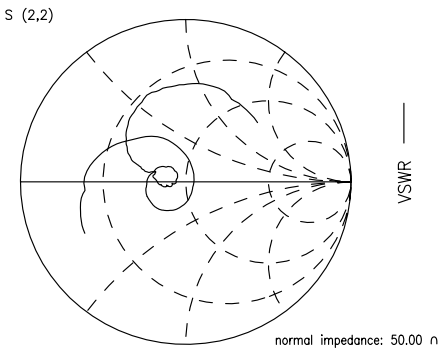
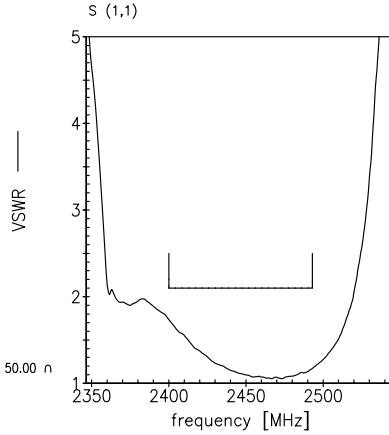
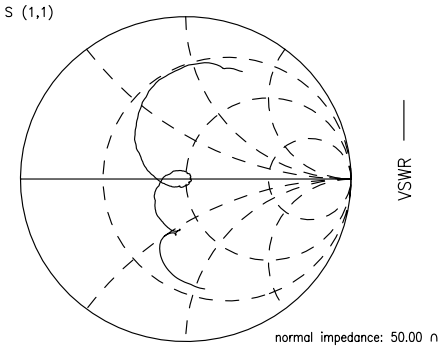
**Transfer Function (wideband)**



Data Sheet



**Smith Charts**



<b>SAW Components</b>	<b>B8312</b>
<b>SAW filter</b>	<b>2446.5 MHz</b>

Data Sheet



## References

<b>Type</b>	B8312
<b>Ordering code</b>	B39252B8312P810
<b>Marking and package</b>	C61157-A8-A70
<b>Packaging</b>	F61074-V8237-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B8312_NB.s2p B8312_WB.s2p
<b>Soldering profile</b>	S_6001
<b>RoHS compatible</b>	defined as compatible with the following documents: "DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. 2005/618/EC from April 18th, 2005, amending Directive 2002/95/EC of the European Parliament and of the Council for the purposes of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment."
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