

SAW Components

SAW filter

WLAN

| | |
|-----------------------|------------------------|
| Series/type: | B8312 |
| Ordering code: | B39252B8312P810 |
| Date: | November 20, 2012 |
| Version: | 2.2 |

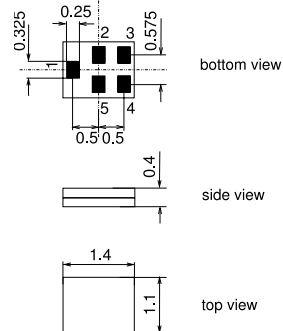
Data Sheet

Application

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


Features

- Package size 1.4 x1.1 x 0.4 mm³
- 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

| | |
|-----------------------|-------------------|
| SAW Components | B8312 |
| SAW filter | 2446.5 MHz |

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: $Z_L = 50\Omega \parallel 2.0\text{ nH}$

| | | B8312 | | | |
|--------------------------------------|-----------------|--------------|-----------------|-------------------|-----|
| | | min. | typ. @ 25 °C | max. | |
| Center frequency | f_C | — | 2446.5 | — | MHz |
| Maximum insertion attenuation | α_{\max} | | | | |
| 2400.0 ... 2493.0 MHz | | — | 2.0 | 2.5 | dB |
| Amplitude ripple (p-p) | $\Delta\alpha$ | | | | |
| 2400.0 ... 2493.0 MHz | | — | 0.5 | 1.0 | dB |
| VSWR (Input and Output) | | | | | |
| 2400.0 ... 2493.0 MHz | | — | 1.7 | 2.0 ¹⁾ | |
| 2400.0 ... 2493.0 MHz | | — | 1.7 | 2.1 | |
| Attenuation | α | | | | |
| 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 |

¹⁾ At 25 °C

Data Sheet

Maximum ratings of Filter

| | | | | |
|---|------------------|-------------------|-----|-------------------------|
| Operable temperature range | T | -30/+85 | °C | |
| Storage temperature range | T _{stg} | -40/+85 | °C | |
| DC voltage | V _{DC} | 3 ¹⁾ | V | |
| ESD voltage | V _{ESD} | 50 ²⁾ | V | machine model |
| | V _{HBM} | 400 ³⁾ | V | human body model |
| | V _{CDM} | 600 ⁴⁾ | V | charge device model |
| Input power at 2400.0 ... 2493.0 MHz | P _{IN} | 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)

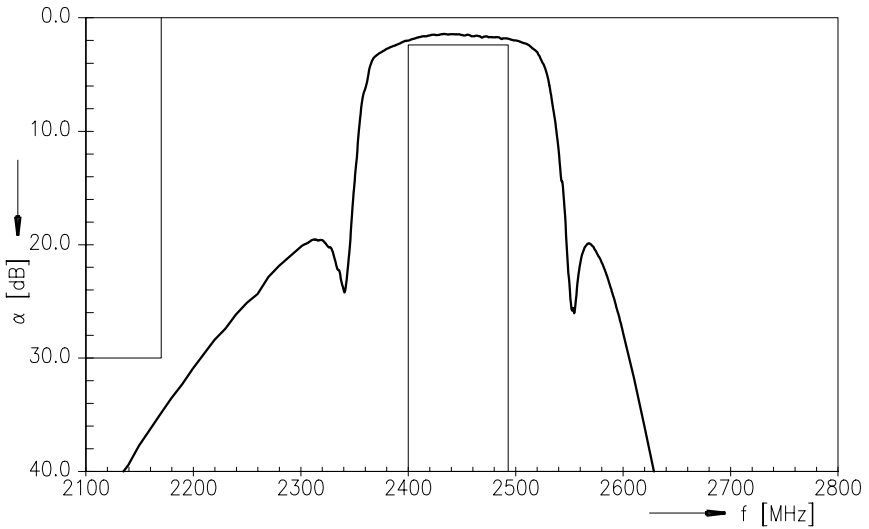
3) acc. to JESD22-A114F (human body model, 1 negative and 1 positive pulses)

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

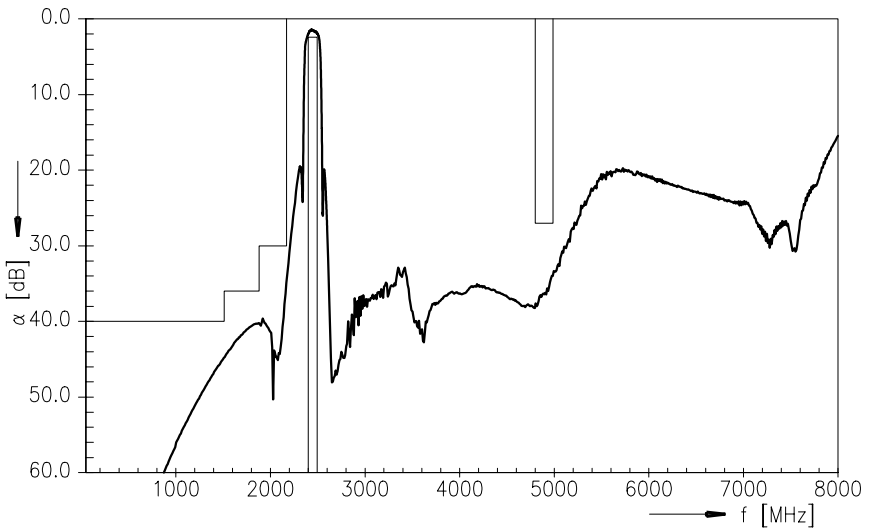
Data Sheet



Transfer Function



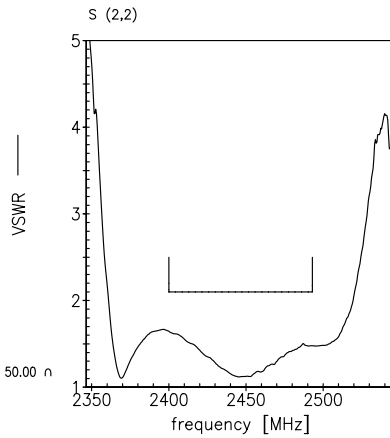
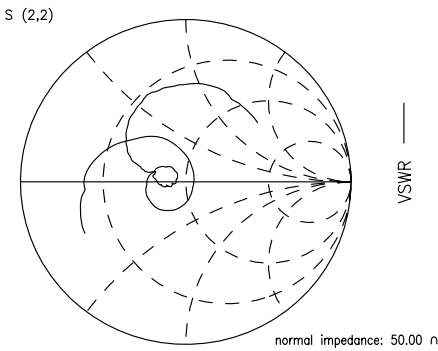
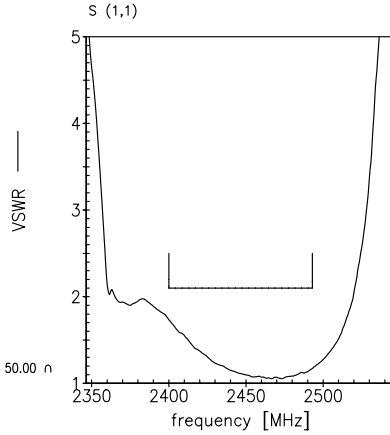
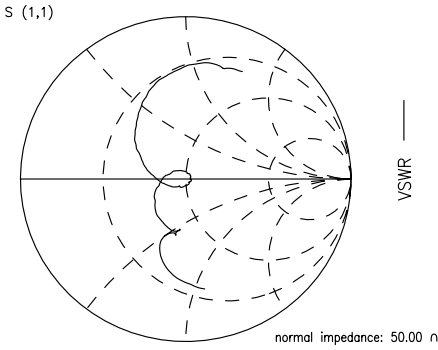
Transfer Function (wideband)



Data Sheet



Smith Charts



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| SAW filter | 2446.5 MHz |

Data Sheet



References

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|----------------------------|--|
| Type | B8312 |
| Ordering code | B39252B8312P810 |
| Marking and package | C61157-A8-A70 |
| Packaging | F61074-V8237-Z000 |
| Date codes | L_1126 |
| S-parameters | B8312_NB.s2p B8312_WB.s2p |
| Soldering profile | S_6001 |
| RoHS compatible | 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." |
| Moldability | Before using in overmolding environment, please contact your EPCOS sales office. |

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