



SAW Components

SAW Rx filter

GSM850 / WCDMA band V

| | |
|-----------------------|------------------------|
| Series/type: | B9432 |
| Ordering code: | B39881B9432M410 |
| Date: | May 11, 2007 |
| Version: | 2.3 |



Data Sheet



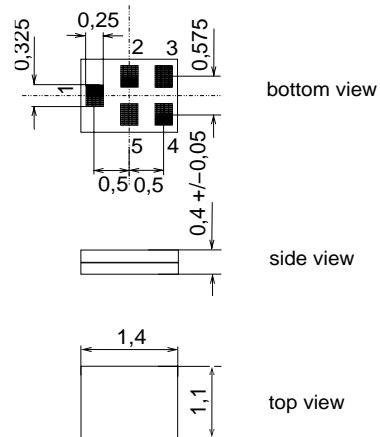
Application

- Low-loss RF filter for mobile telephone GSM850/WCDMA Band V systems, receive path (RX)
- Useable passband 25 MHz
- Unbalanced to balanced operation
- Impedance transformation from 50 Ω to 100 Ω
- Suitable to GPRS class 1 to 12



Features

- Package size 1.4 x 1.1 x 0.4 mm³
- Package code QCS51
- RoHS compatible
- Approximate weight 0.003 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**



Pin configuration

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





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881.5 MHz

Data Sheet



Characteristics

Temperature range for specification: T = -30 °C to +85 °C
 Terminating source impedance: Z_S = 50 Ω
 Terminating load impedance: Z_L = 100 Ω

| | | B9432 | | | |
|--|------------------|--------------|-------------------------|-------------|-----|
| | | min. | typ. @ 25 °C | max. | |
| Center frequency | f _C | — | 881.5 | — | MHz |
| Maximum insertion attenuation | α _{max} | | | | |
| 869.0 ... 894.0 MHz | | — | 1.8 | 2.5 | dB |
| Amplitude ripple (p-p) | Δα | | | | |
| 869.0 ... 894.0 MHz | | — | 0.7 | 1.3 | dB |
| Amplitude ripple at 5 MHz BW | Δα | | | | |
| 869.0 ... 894.0 MHz | | — | 0.5 | 0.9 | dB |
| Group delay variation at 5 MHz BW | | | | | |
| 869.0 ... 894.0 MHz | | — | 18 | 30 | ns |
| Error Vector Magnitude¹⁾ @f_{Carrier} | | | | | |
| 871.4 ... 891.6 MHz | | — | 1.8 | 2.5 | % |
| Input return loss | | | | | |
| 869.0 ... 894.0 MHz | | 10 | 14 | — | dB |
| Output return loss | | | | | |
| 869.0 ... 894.0 MHz | | 10 | 14 | — | dB |
| Output amplitude balance (S₃₁/S₂₁) | | | | | |
| 869.0 ... 894.0 MHz | | -0.8 | -0.4/0.2 | 0.8 | dB |
| Output phase balance (φ(S₃₁) - φ(S₂₁)+180°) | | | | | |
| 869.0 ... 894.0 MHz | | -8 | -5/+5 | 8 | ° |
| Attenuation | α | | | | |
| DC ... 840.0 MHz | | 47 | 51 | — | dB |
| 840.0 ... 849.0 MHz | | 40 | 50 | — | dB |
| 914.0 ... 950.0 MHz | | 24 | 28 | — | dB |
| 950.0 ... 1150.0 MHz | | 45 | 50 | — | dB |
| 1150.0 ... 1250.0 MHz | | 40 | 47 | — | dB |
| 1250.0 ... 3000.0 MHz | | 45 | 50 | — | dB |
| 3000.0 ... 6000.0 MHz | | 40 | 58 | — | dB |

¹⁾ Error Vector Magnitude (EVM) based on definition given in 3GPP TS 25.141.



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Maximum ratings

| | | | | |
|----------------------------|------------------|-------------------|-----|---------------------------------|
| Operable temperature range | T | -30/+85 | °C | |
| Storage temperature range | T _{stg} | -40/+85 | °C | |
| DC voltage | V _{DC} | 5 | V | |
| ESD voltage | V _{ESD} | 100 ¹⁾ | V | machine model, 10 pulses |
| Input power at | | | | |
| GSM850, GSM900 | P _{IN} | 15 | dBm | effective power in the on-state |
| GSM1800, GSM1900 | P _{IN} | 15 | dBm | duty cycle 4:8 |
| Tx bands | | | | |

¹⁾ acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.



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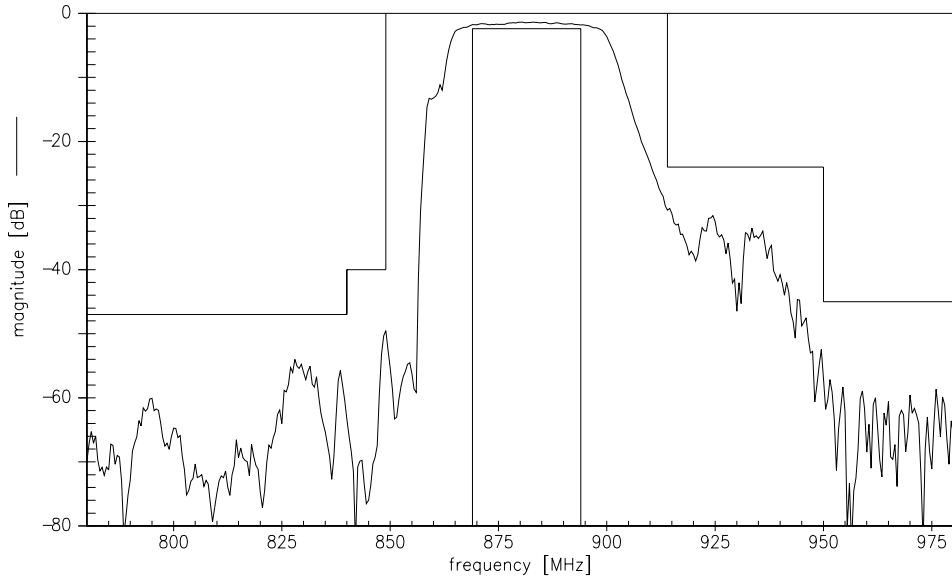
SAW Rx filter

881.5 MHz

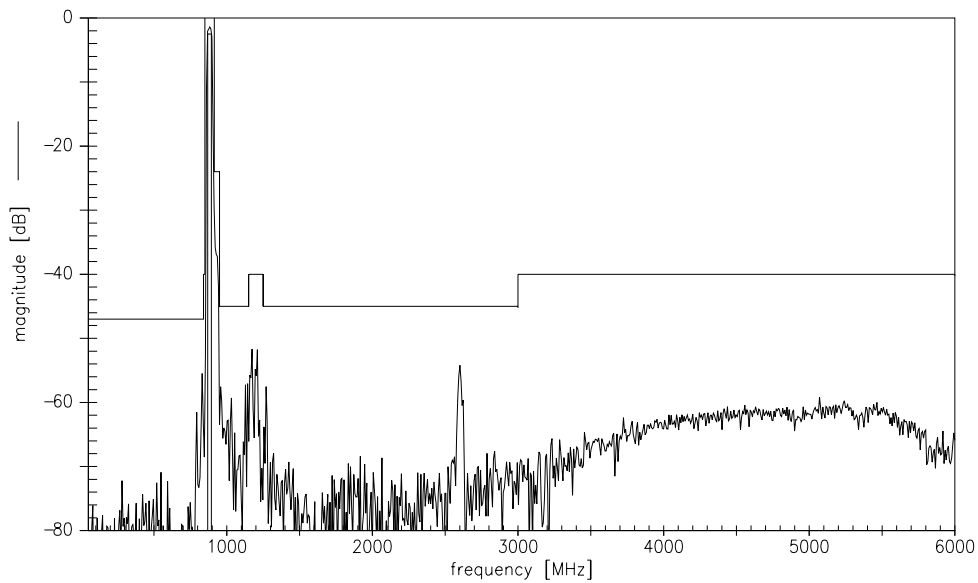
Data Sheet



Transfer function



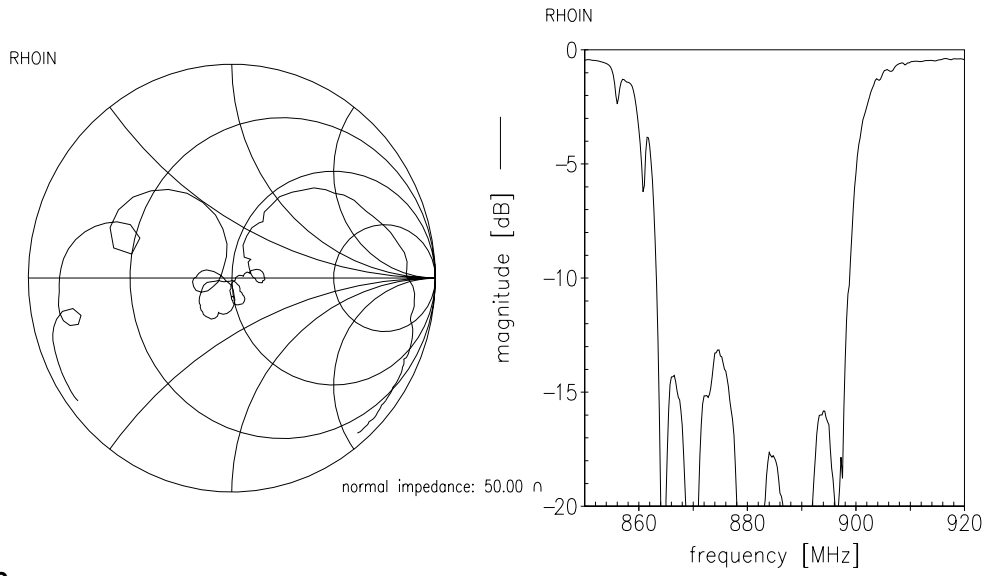
Transfer function (wideband)



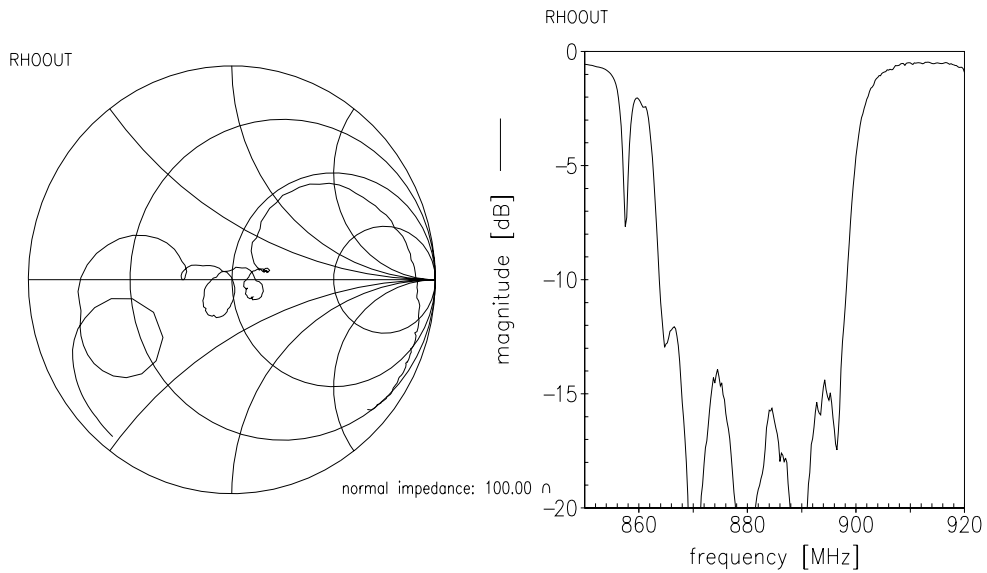
Please read *cautions and warnings* and *important notes* at the end of this document.



S11



S22



**SAW Components****B9432****SAW Rx filter****881.5 MHz**

Data Sheet

**References**

| | |
|----------------------------|--|
| Type | B9432 |
| Ordering code | B39881B9432M410 |
| Marking and package | C61157-A8-A3 |
| Packaging | F61074-V8212-Z000 |
| Date codes | L_1126 |
| S-parameters | B9432_NB.s3p B9432_WB.s3p |
| 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. |

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com .

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