



SAW Components

SAW Rx filter

GSM850 / WCDMA band V

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

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Data Sheet



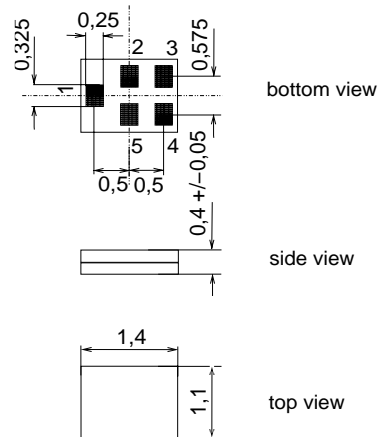
Application

- 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



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



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881.5 MHz

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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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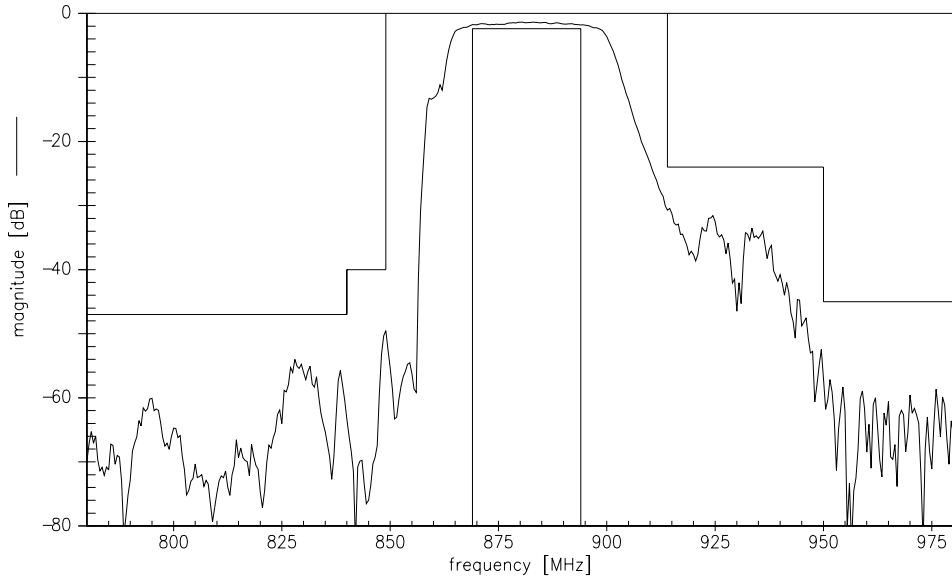
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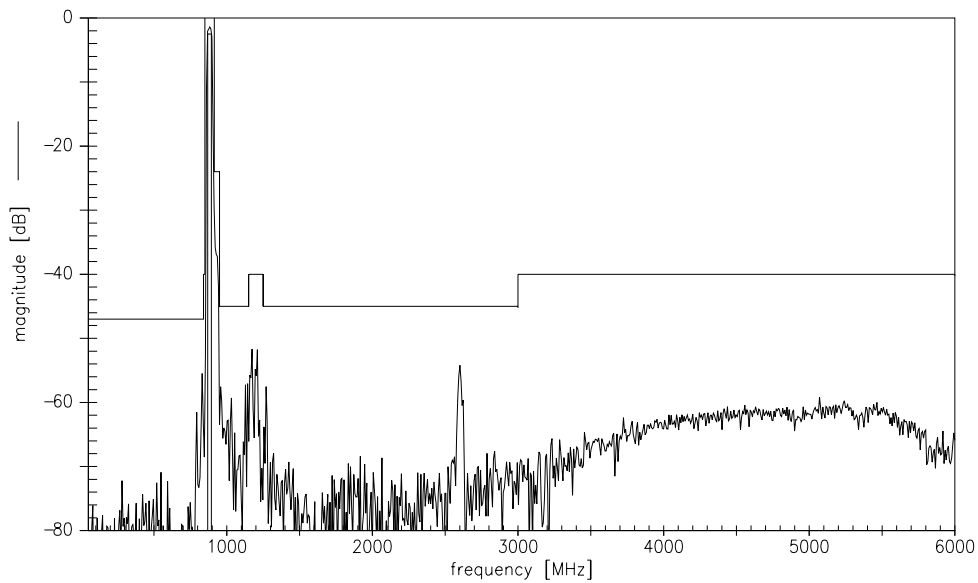
Data Sheet



Transfer function



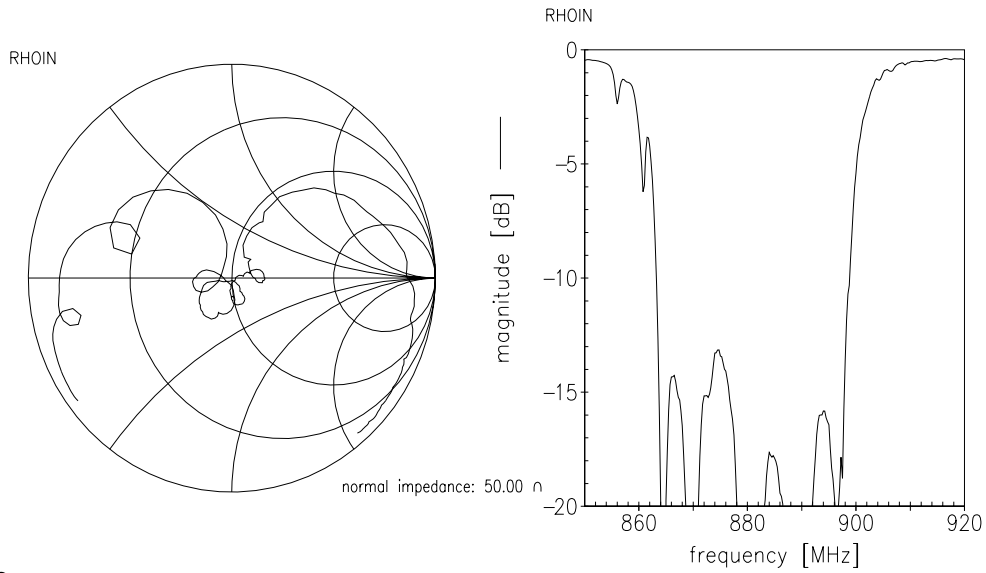
Transfer function (wideband)



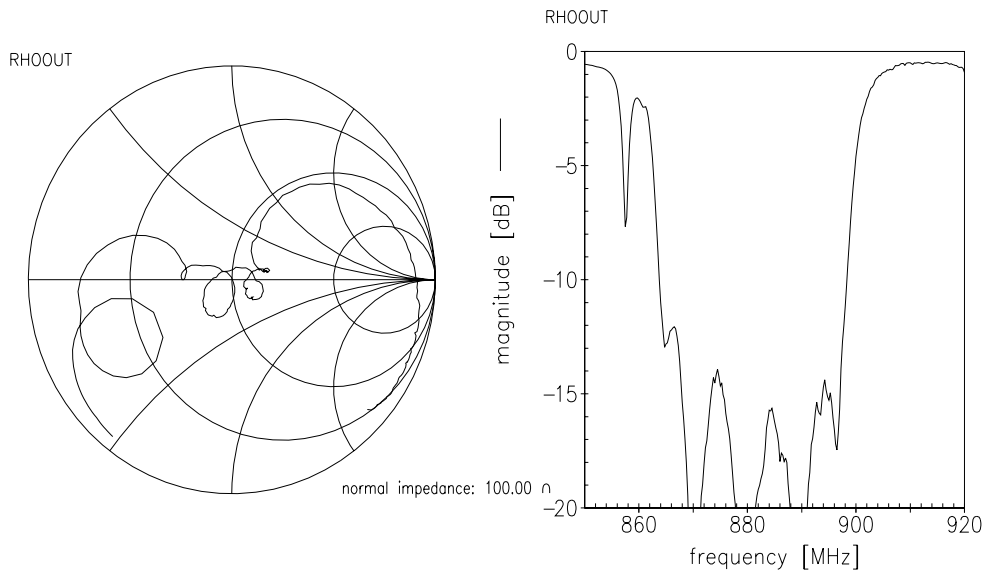
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S11



S22



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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.

Published by EPCOS AG
Surface Acoustic Wave Components Division
P.O. Box 80 17 09, 81617 Munich, GERMANY

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