



SAW Components

SAW Rx Filter

GSM 850

Series/Type:

B9422

Ordering code:

B39881B9422K610

Date:

March 17, 2006

Version:

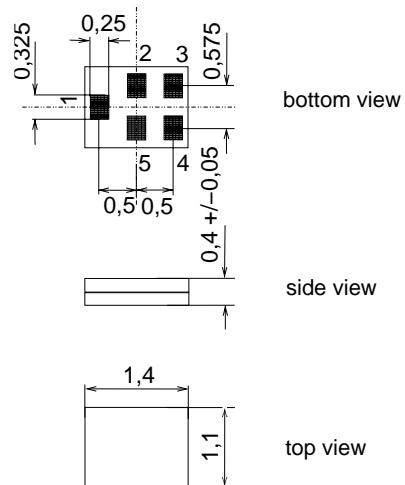
2.0

Application

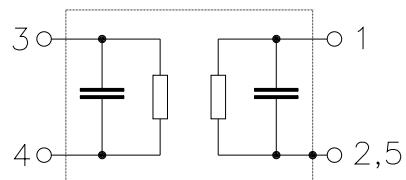
- Low-loss RF filter for mobile telephone
GSM 850 systems, receive path (RX)
- Impedance transform from 50Ω to 100Ω
- Unbalanced to balanced operation
- Very low insertion attenuation
- Low amplitude ripple
- Usable passband 25 MHz
- Suitable for GPRS class 1 to 12


Features

- Package size $1.4 \times 1.1 \times 0.4 \text{ mm}^3$
- Package code QCS5F
- RoHS compatible
- Approx. 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



**SAW Components****B9422****Low-Loss Filter for Mobile Communication****881.5 MHz****Data sheet****Characteristics**

Operating temperature range: $T = -10$ to $+85$ °C
Terminating source impedance: $Z_S = 50\Omega$
Terminating load impedance: $Z_L = 100\Omega$ (balanced)

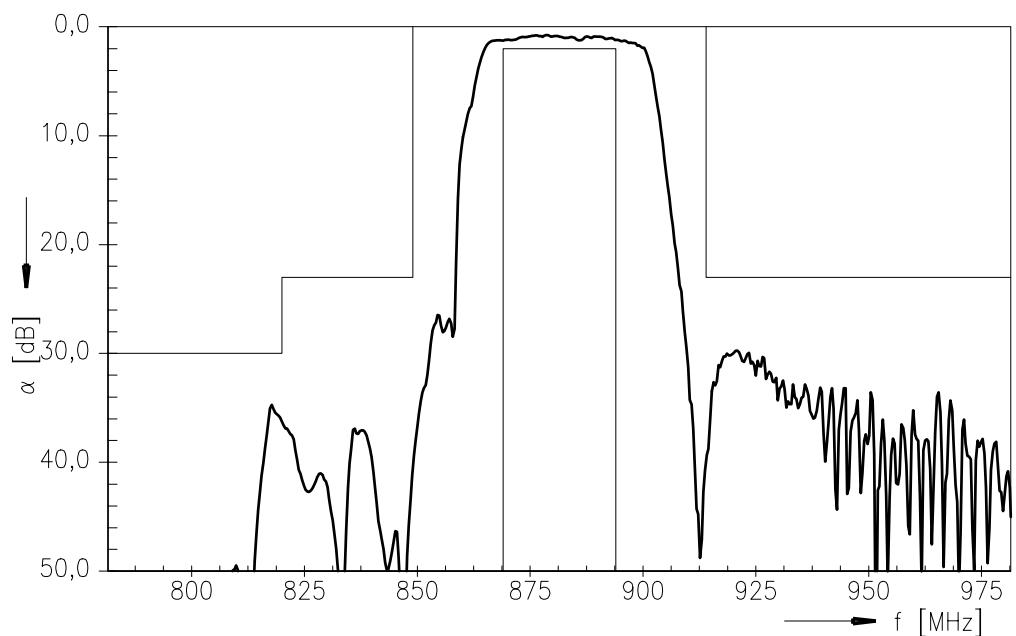
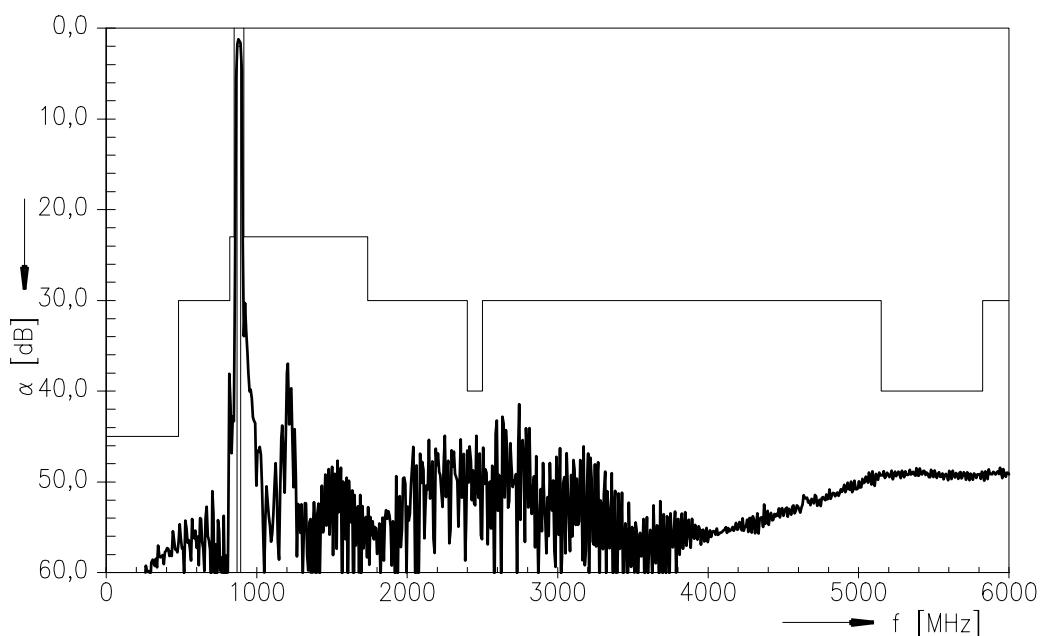
	B9422			
	min.	typ. @ 25°C	max.	
Center frequency	f_C	—	881.5	— MHz
Maximum insertion attenuation	α_{max}	—	1.3	2.0 dB
869.0 ... 894.0 MHz				
Amplitude ripple (p-p)	$\Delta\alpha$	—	0.5	1.2 dB
869.0 ... 894.0 MHz				
Input VSWR		—	1.7	2.0
869.0 ... 894.0 MHz				
Output VSWR		—	1.8	2.0
869.0 ... 894.0 MHz				
Output amplitude balance (S_{31}/S_{21})				
869.0 ... 894.0 MHz		-1.0	-0.5/0.5	1.0 dB
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)				
869.0 ... 894.0 MHz		-5	-1/+2	5 °
Common mode suppression	S_{cs21}			
869.0 ... 894.0 MHz		20	30	— dB
824.0 ... 995.0 MHz		20	25	— dB
1648.0 ... 1990.0 MHz		20	40	— dB
3296.0 ... 3980.0 MHz		20	29	— dB
Attenuation	α			
0.3 ... 480.0 MHz		45	55	— dB
480.0 ... 820.0 MHz		30	35	— dB
820.0 ... 849.0 MHz		23	35	— dB
914.0 ... 1738.0 MHz		23	30	— dB
1738.0 ... 2400.0 MHz		30	45	— dB
2400.0 ... 2500.0 MHz		40	46	— dB
2500.0 ... 5150.0 MHz		30	43	— dB
5150.0 ... 5825.0 MHz		40	48	— dB
5825.0 ... 12750.0 MHz		—	—	— dB

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

**SAW Components****B9422****Low-Loss Filter for Mobile Communication****881.5 MHz****Data sheet****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 GSM1800, GSM1900	P _{IN}	15	dBm	effective power in the on-state, duty cycle 4:8
Tx bands		15	dBm	

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

Transfer function (passband)

Transfer function


SAW Components

B9422

Low-Loss Filter for Mobile Communication

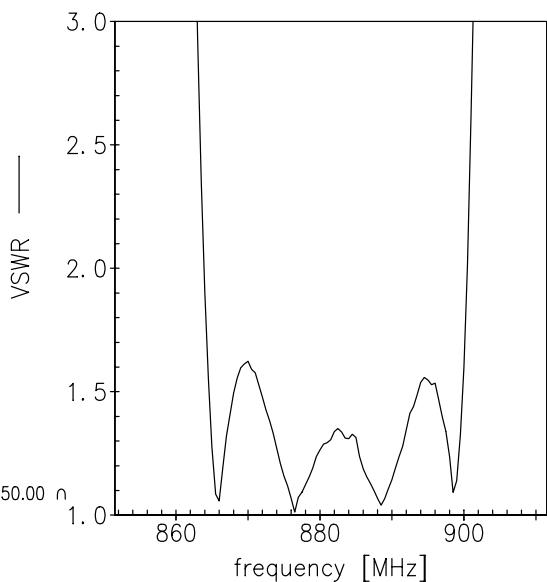
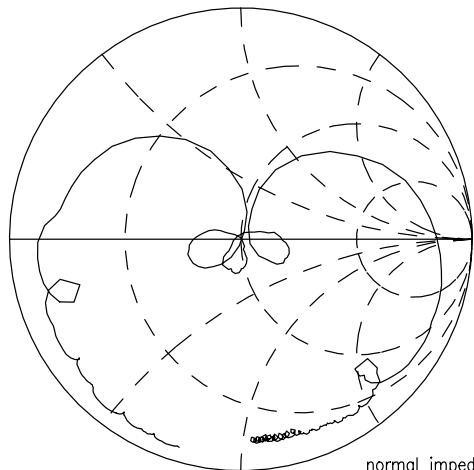
881.5 MHz

Data sheet

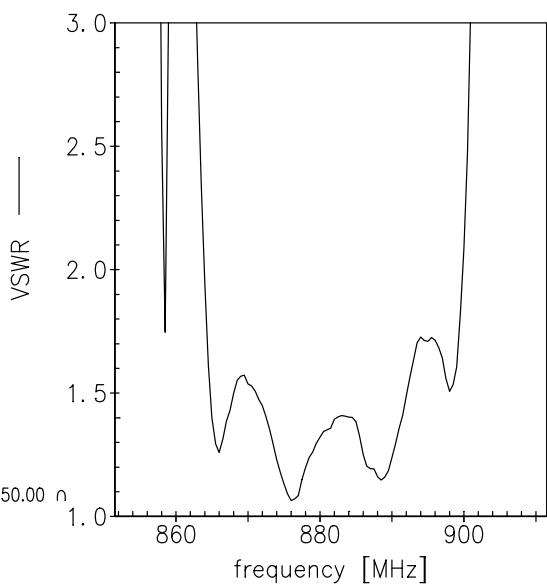
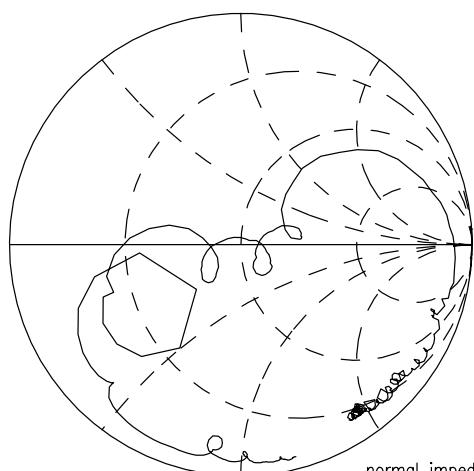


Smith chart / VSWR

S_{11} function



S_{22} function



**SAW Components****B9422****Low-Loss Filter for Mobile Communication****881.5 MHz****Data sheet****References**

Type	B9422
Ordering code	B39881B9422K610
Marking and package	C61157-A8-A1
Packaging	F61074-V8212-Z000
Date codes	L_1126
S-parameters	B9422_NB.s3p B9422_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."

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

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