



SAW Components

SAW Rx Filter

GSM 850

Series/Type:	B9422
Ordering code:	B39881B9422K610
Date:	March 17, 2006
Version:	2.0



Data sheet



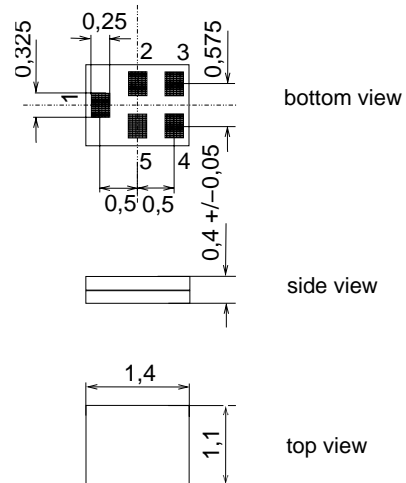
Application

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



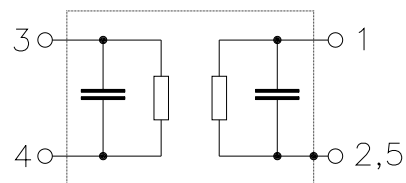
Features

- Package size 1.4 x 1.1 x 0.4 mm³
- 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





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}				
869.0 ... 894.0 MHz		—	1.3	2.0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
869.0 ... 894.0 MHz		—	0.5	1.2	dB
Input VSWR					
869.0 ... 894.0 MHz		—	1.7	2.0	
Output VSWR					
869.0 ... 894.0 MHz		—	1.8	2.0	
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



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Low-Loss Filter for Mobile Communication

881.5 MHz

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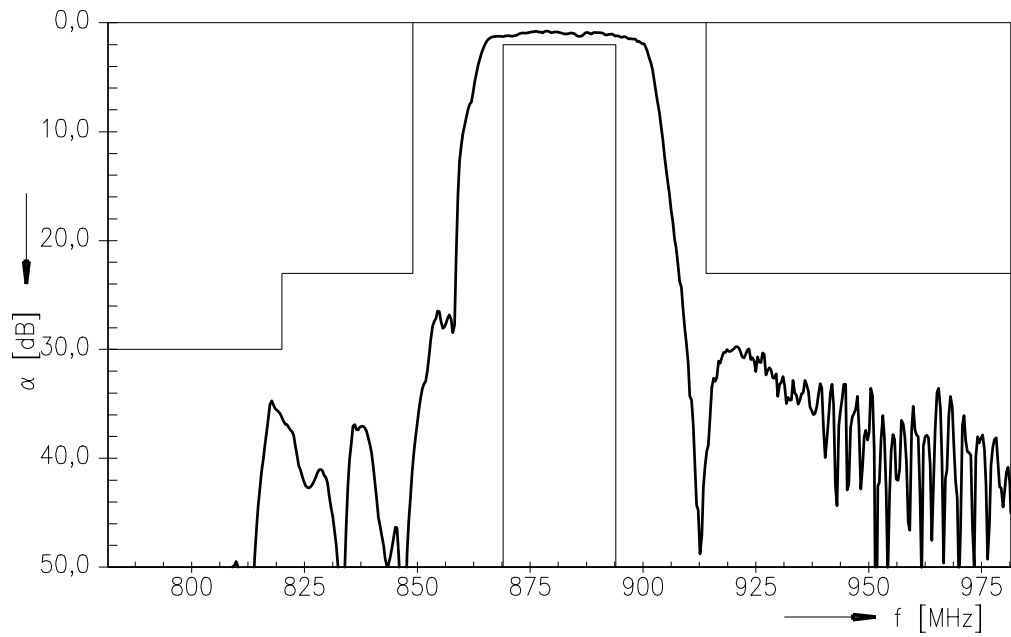
Maximum ratings

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, duty cycle 4:8
GSM1800, GSM1900	P _{IN}	15	dBm	
Tx bands				

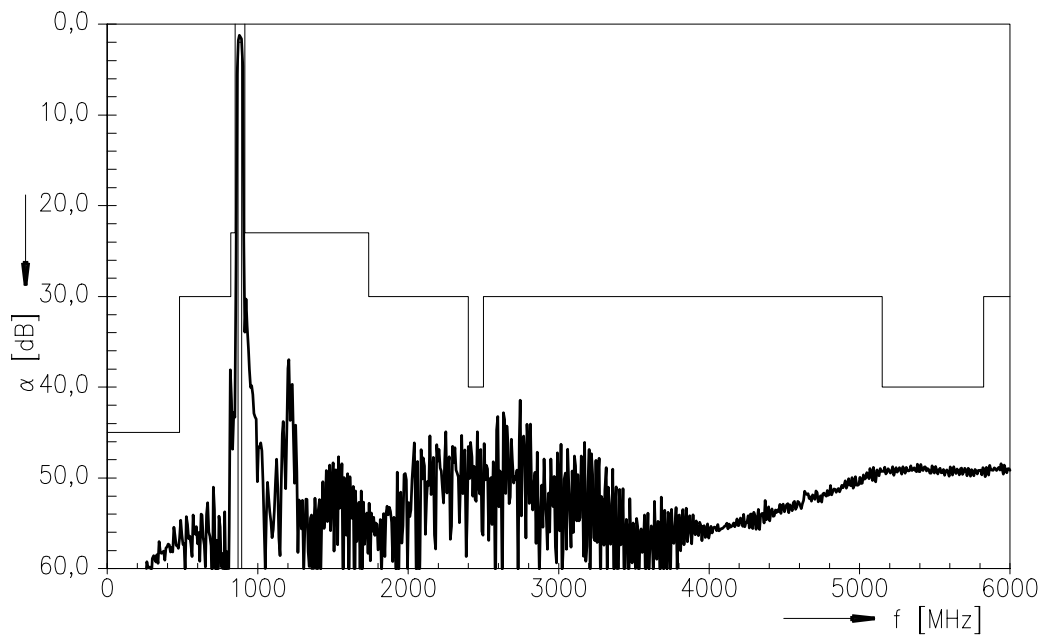
¹⁾ acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.



Transfer function (passband)



Transfer function



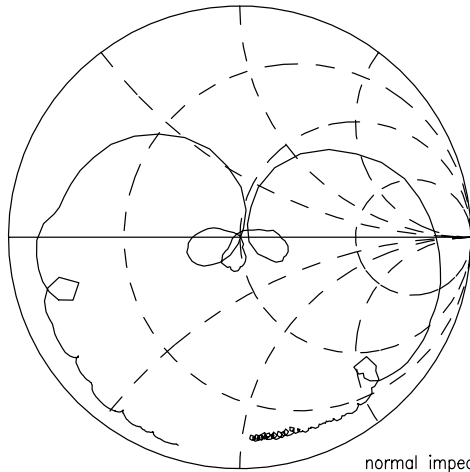


Data sheet

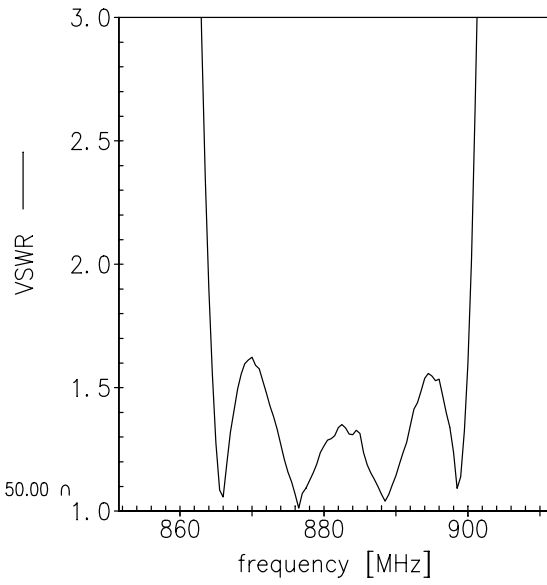


Smith chart / VSWR

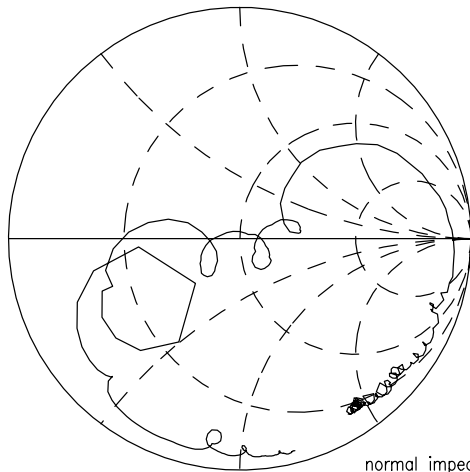
S₁₁ function



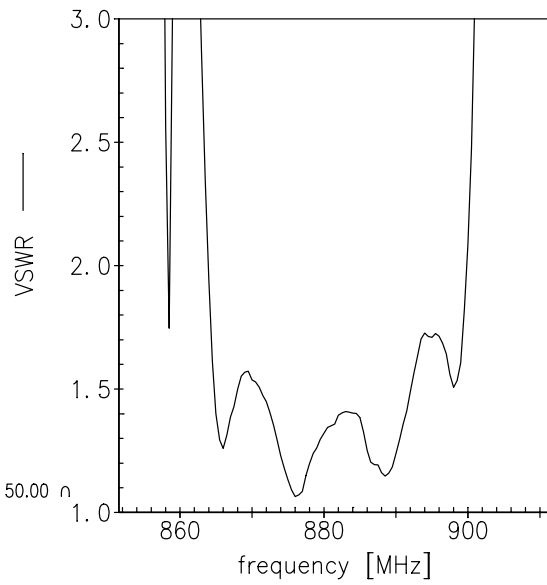
normal impedance: 50.00 Ω



S₂₂ function



normal impedance: 50.00 Ω





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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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