



SAW Components

SAW Rx Filter

GSM 900

Series/Type:	B9405
Ordering code:	B39941B9405K610
Date:	May 15, 2006
Version:	2.1



SAW Components

B9405

Low-Loss Filter for Mobile Communication

942.5 MHz

Data Sheet



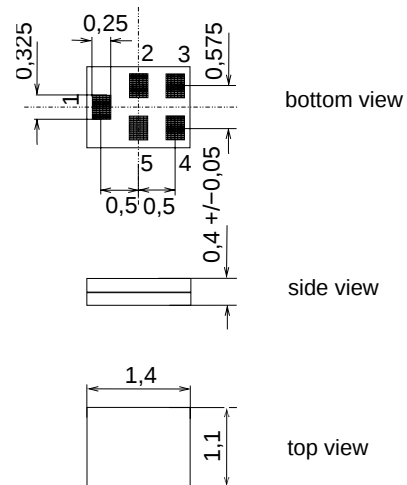
Application

- Low-loss RF filter for mobile telephone
GSM 900 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 35 MHz
- Suitable for GPRS class 1 to 12



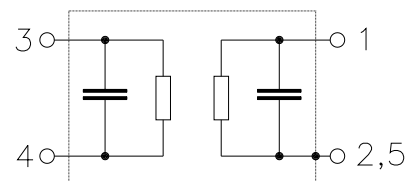
Features

- 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





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Characteristics

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

				B9405			
				min.	typ. @ 25°C	max.	
Center frequency	f_C			—	942.5	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$			—	1.9	2.6	dB
925.0 ... 960.0 MHz				—	1.9	2.6	dB
Amplitude ripple (p-p)	$\Delta\alpha$			—	1.0	1.6	dB
925.0 ... 960.0 MHz				—	1.0	1.6	dB
Input VSWR				—	1.9	2.2	
925.0 ... 960.0 MHz				—	1.9	2.2	
Output VSWR				—	1.8	2.2	
925.0 ... 960.0 MHz				—	1.8	2.2	
Common mode suppression	S_{cs21}						
925.0 ... 960.0 MHz				20	27	—	dB
824.0 ... 995.0 MHz				20	24	—	dB
1648.0 ... 1990.0 MHz				20	48	—	dB
3296.0 ... 3980.0 MHz				20	33	—	dB
Attenuation	α						
0.3 ... 480.0 MHz				45	56	—	dB
480.0 ... 880.0 MHz				30	33	—	dB
880.0 ... 905.0 MHz				23	35	—	dB
905.0 ... 915.0 MHz				18	29	—	dB
980.0 ... 1850.0 MHz				23	29	—	dB
1850.0 ... 1920.0 MHz				30	48	—	dB
1920.0 ... 2400.0 MHz				25	44	—	dB
2400.0 ... 2500.0 MHz				40	44	—	dB
2500.0 ... 5150.0 MHz				30	42	—	dB
5150.0 ... 5825.0 MHz				40	45	—	dB
5825.0 ... 6000.0 MHz				30	45	—	dB
6000.0 ... 12750.0 MHz				—	—	—	dB



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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.



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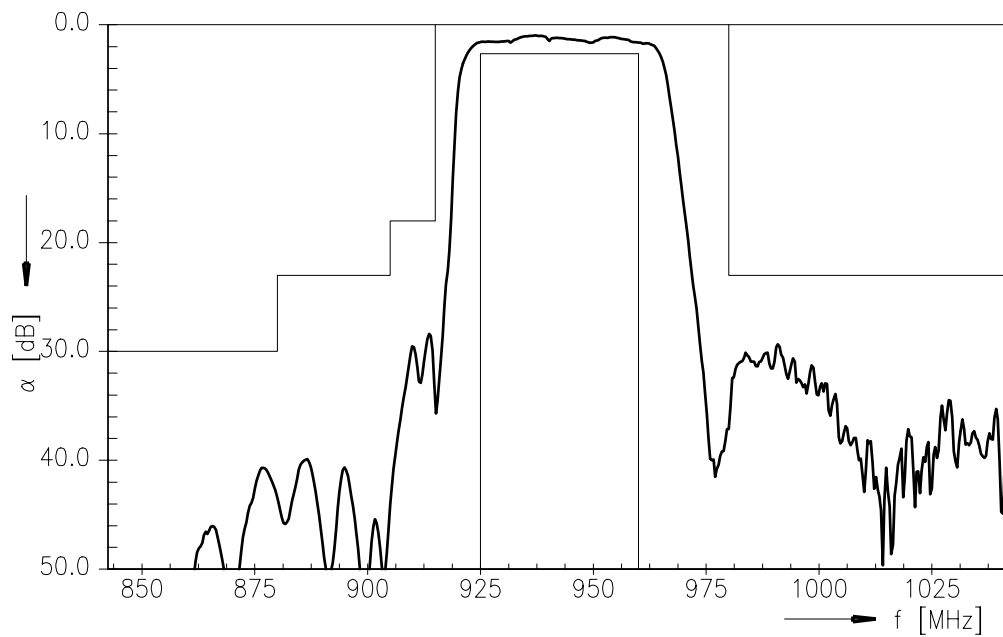
Low-Loss Filter for Mobile Communication

942.5 MHz

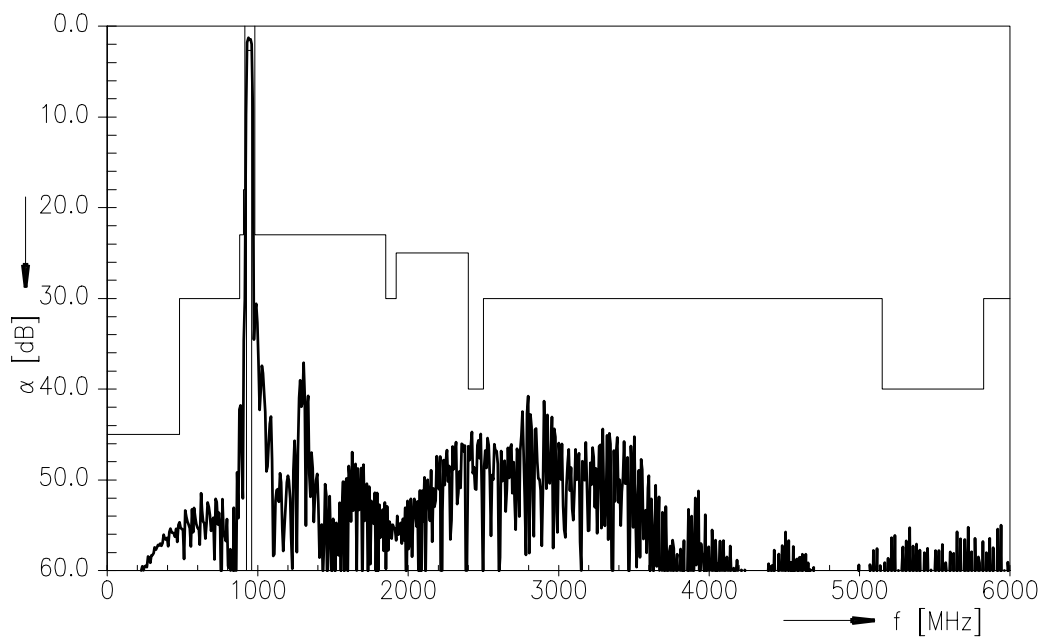
Data Sheet



Transfer function (passband)



Transfer function



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



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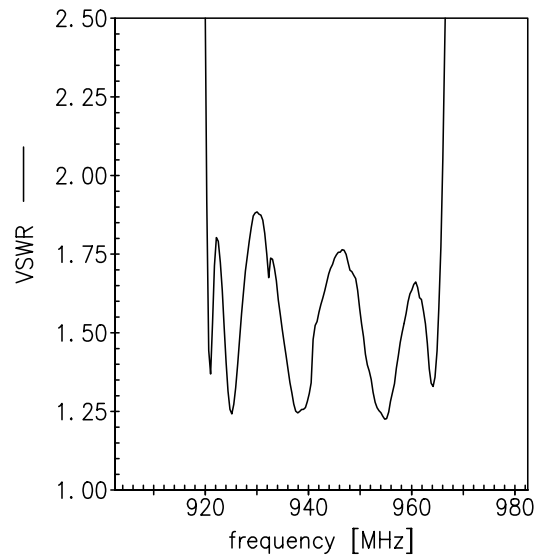
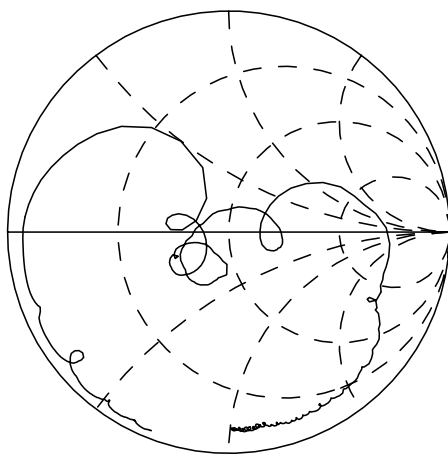
942.5 MHz

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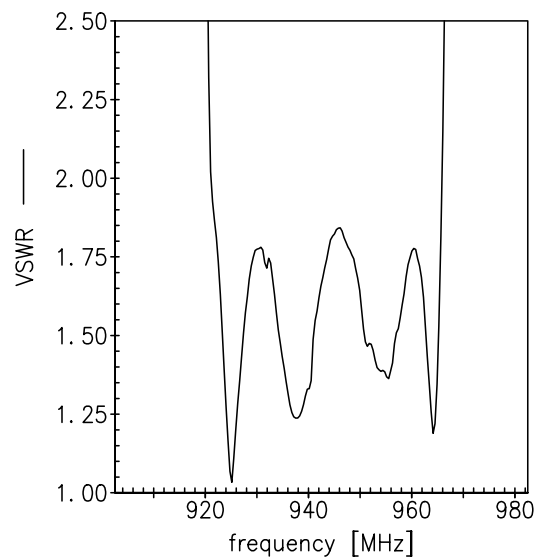
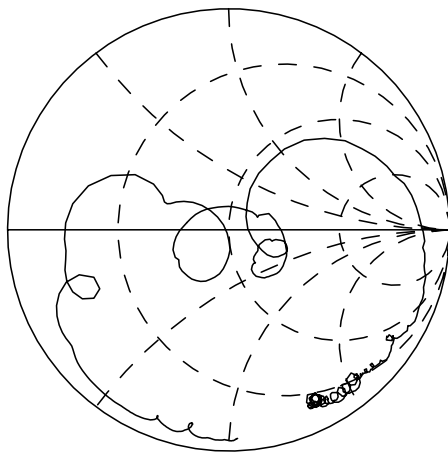


Smith chart / VSWR

S_{11} function



S_{22} function



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**References**

Type	B9405
Ordering code	B39941B9405K610
Marking and package	C61157-A8-A1
Packaging	F61074-V8212-Z000
Date codes	L_1126
S-parameters	B9405_NB.s3p B9405_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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