SAW Components

SAW Rx Filter

GSM 900

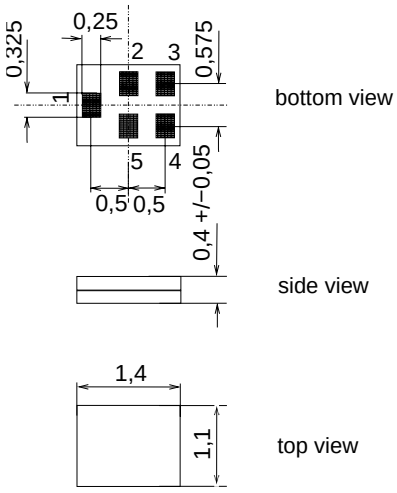
Series/Type:	**B9405**
Ordering code:	**B39941B9405K610**
Date:	May 15, 2006
Version:	2.1

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

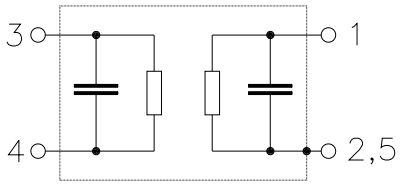
Features

- Package size 1.4 x1.1 x 0.4 mm³
- Package code QCS5F
- RoHS compatible
- Approx. weight 0.003 g
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)



Pin configuration

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



Characteristics

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

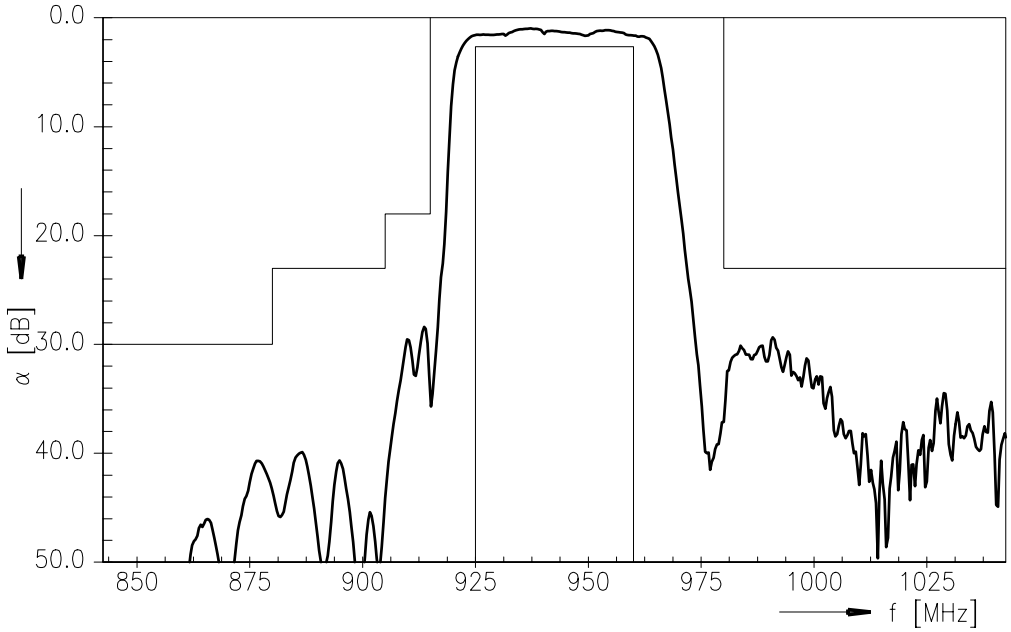
		B9405			
		min.	typ. @ 25°C	max.	
Center frequency	f_C	—	942.5	—	MHz
Maximum insertion attenuation	α_{max}				
925.0 ... 960.0 MHz		—	1.9	2.6	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
925.0 ... 960.0 MHz		—	1.0	1.6	dB
Input VSWR					
925.0 ... 960.0 MHz		—	1.9	2.2	
Output VSWR					
925.0 ... 960.0 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

Maximum ratings

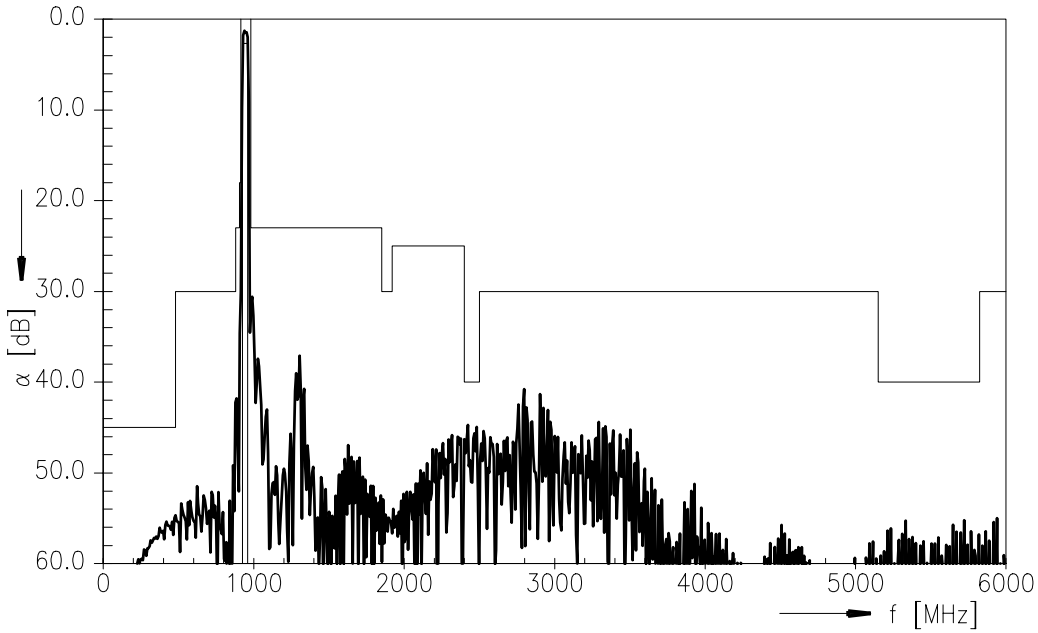
Operable temperature range	T	-30/+85	˚C	
Storage temperature range	T_{stg}	-40/+85	˚C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	100 [1)]	V	machine model, 10 pulses
Input Power at				
GSM850, GSM900	P_{IN}	15	dBm	effective power in the on-state
GSM1800, GSM1900	P_{IN}	15	dBm	duty cycle 4:8
Tx bands				

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

Transfer function (passband)

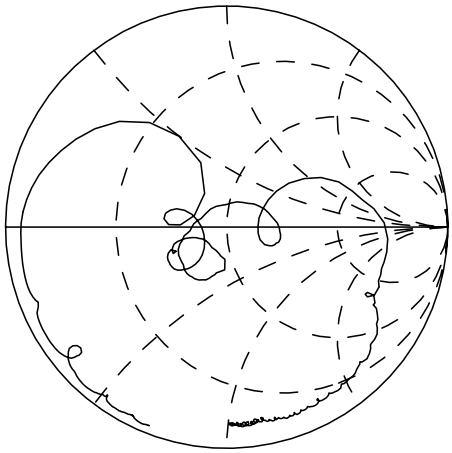


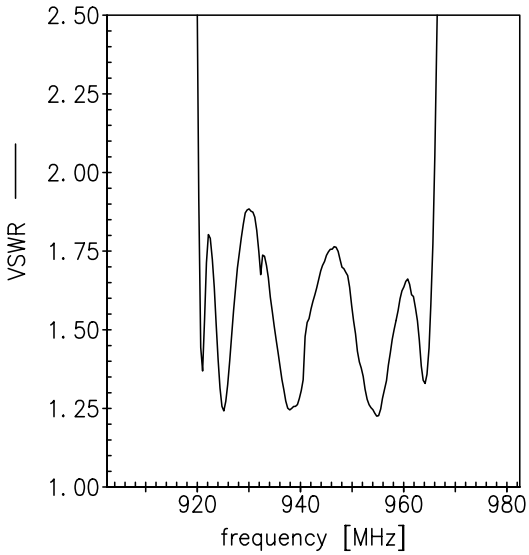
Transfer function



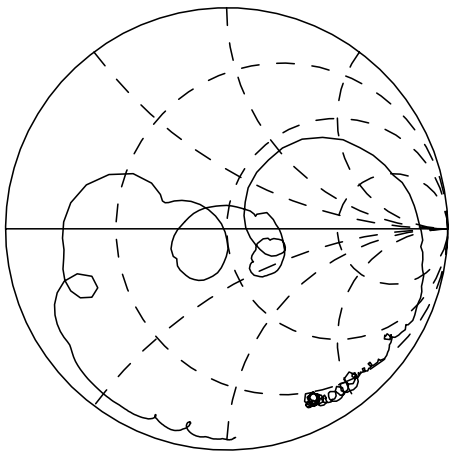
Smith chart / VSWR

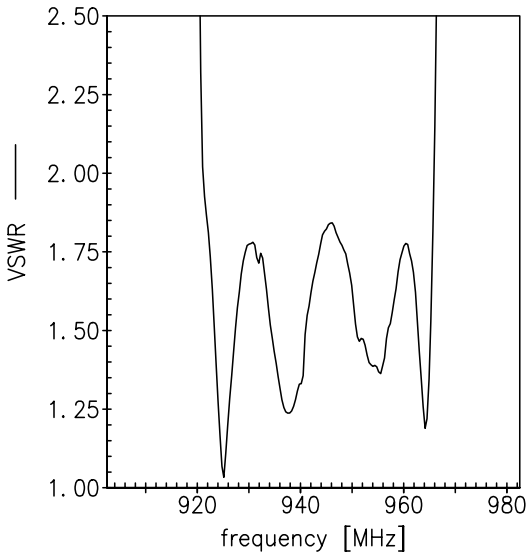
S_{11} function





S_{22} function





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.

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