



SAW Components

SAW Rx Filter

GSM 1800

Series/Type:	B9402
Ordering code:	B39182B9402K610
Date:	March 14, 2006
Version:	2.0

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Data sheet



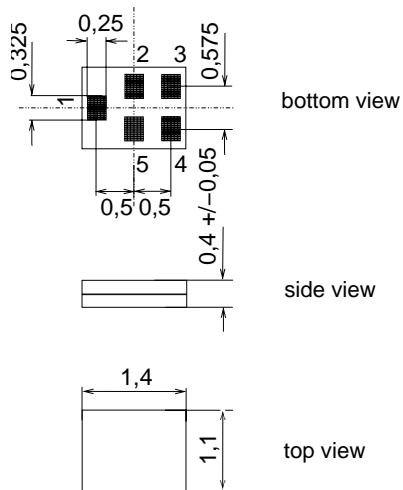
Application

- Low-loss RF filter for mobile telephone GSM 1800 systems, receive path (RX)
- Impedance transform from 50 Ω to 150 Ω
- Unbalanced to balanced operation
- Very low insertion attenuation
- Low amplitude ripple
- Usable passband 75 MHz
- Suitable for GPRS class 1 to 12



Features

- Package size 1.4 x 1.1 x 0.4 mm³
- RoHS compliant
- Approx. weight 0.003 g
- Package for Surface Mount Technology (SMT)
- Ni, gold-plated terminals



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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B9402

Low-Loss Filter for Mobile Communication

1842.50 MHz

Data sheet



Characteristics

Operating temperature range: $T = -20$ to $+75$ °C
 Terminating source impedance: $Z_S = 50\Omega$
 Terminating load impedance: $Z_L = 150\Omega \parallel 22$ nH (balanced)

		min.	typ. @ 25°C	max.	
Center frequency	f_C	—	1842.5	—	MHz
Maximum insertion attenuation	α_{max}	—	1.6	2.4	dB
1805.0 ... 1880.0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	0.6	1.4	dB
1805.0 ... 1880.0 MHz					
Input VSWR		—	1.8	2.2	
1805.0 ... 1880.0 MHz					
Output VSWR		—	1.8	2.2	
1805.0 ... 1880.0 MHz					
Output amplitude balance (S_{31}/S_{21})		-1.0	-0.7/0.8	1.0	dB
1805.0 ... 1880.0 MHz					
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180^\circ$)		-10	-3/+4	10	°
1805.0 ... 1880.0 MHz					
Attenuation	α				
0.0 ... 902.0 MHz		45	50	—	dB
902.0 ... 940.0 MHz		45	51	—	dB
940.0 ... 1500.0 MHz		35	43	—	dB
1500.0 ... 1705.0 MHz		28	35	—	dB
1705.0 ... 1785.0 MHz		12	18	—	dB
1920.0 ... 1980.0 MHz		18	23	—	dB
1980.0 ... 2030.0 MHz		23	26	—	dB
2030.0 ... 2400.0 MHz		28	32	—	dB
2400.0 ... 2500.0 MHz		32	40	—	dB
2500.0 ... 2775.0 MHz		28	33	—	dB
2775.0 ... 3760.0 MHz		40	50	—	dB
3760.0 ... 6000.0 MHz		35	43	—	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}	50 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.

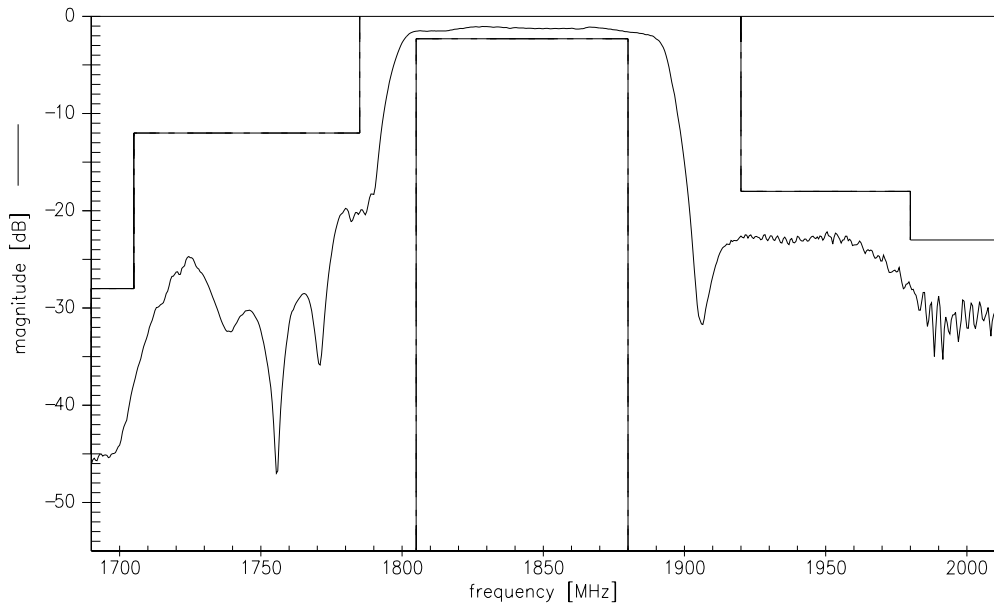
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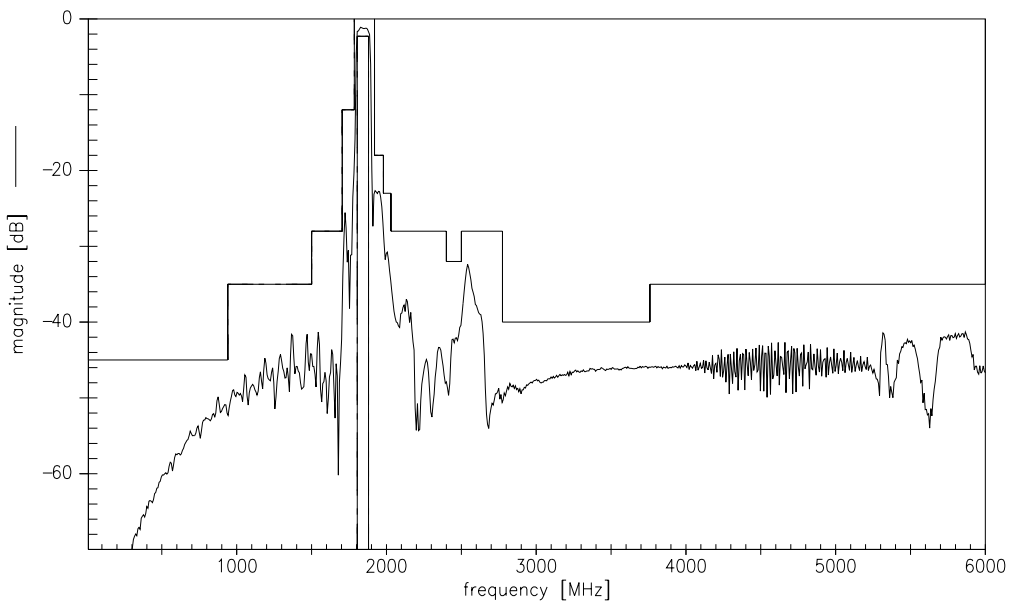
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Transfer function



Transfer function



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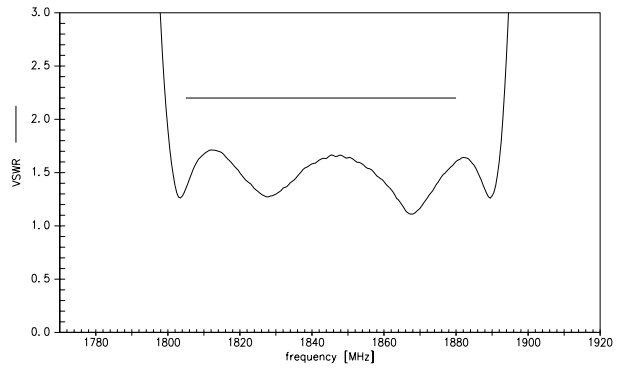
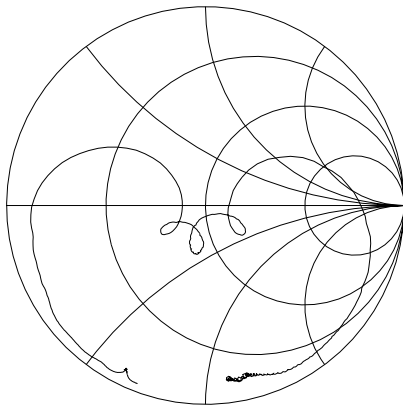


Data sheet

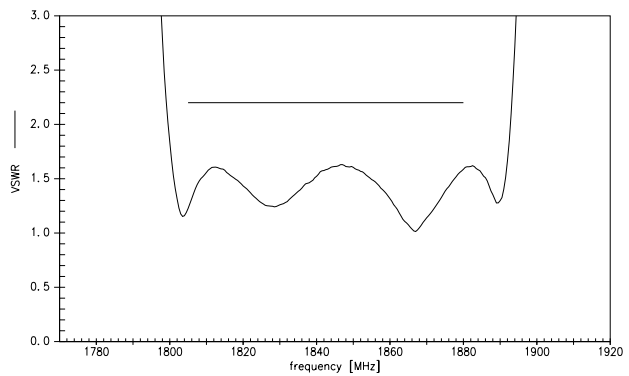
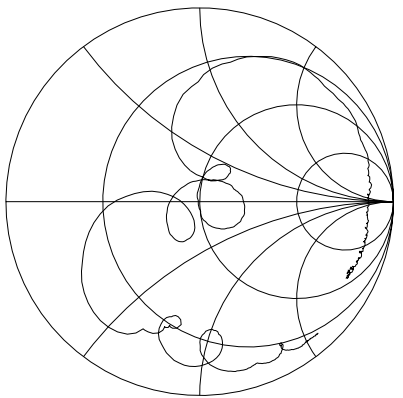


Smith charts, VSWR

S_{11} function



S_{22} function



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Type	B9402	
Ordering code	B39182-B9402-K610	
Marking and Package	C61157-A8-A1	
Packaging	F61074-V8212-Z000	
Date Codes	L_1126	
S-Parameters	B9402_NB.s3p B9402_WB.s3p	
Soldering profile	S_6001	

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

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7 March 14, 2006



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