



SAW Components

SAW Rx Filter

GSM 900

Series/Type: **B9401**

Ordering code: **B39941-B9401-K610**

Date: **Oct 21, 2005**

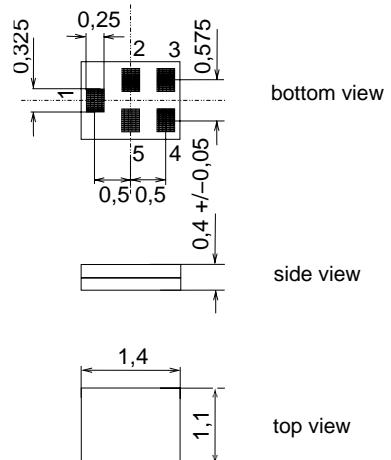
Version: **1**

Application

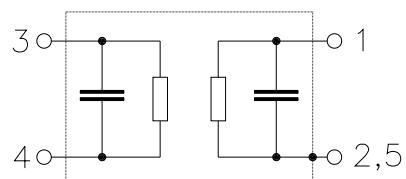
- Low-loss RF filter for mobile telephone
GSM systems, receive path (RX)
- Impedance transform from 50Ω to 150Ω
- Unbalanced to balanced operation
- Very low insertion attenuation
- Low amplitude ripple
- Usable passband 35 MHz
- Suitable for GPRS class 1 to 12


Features

- Package size $1.4 \times 1.1 \times 0.4 \text{ mm}^3$
- 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



**SAW Components****B9401****Low-Loss Filter for Mobile Communication****942.50 MHz****Data Sheet****Characteristics**Operating temperature range: $T = -20$ to $+75$ °CTerminating source impedance: $Z_S = 50\Omega$ Terminating load impedance: $Z_L = 150\Omega \parallel 82\text{ nH}$ (balanced)

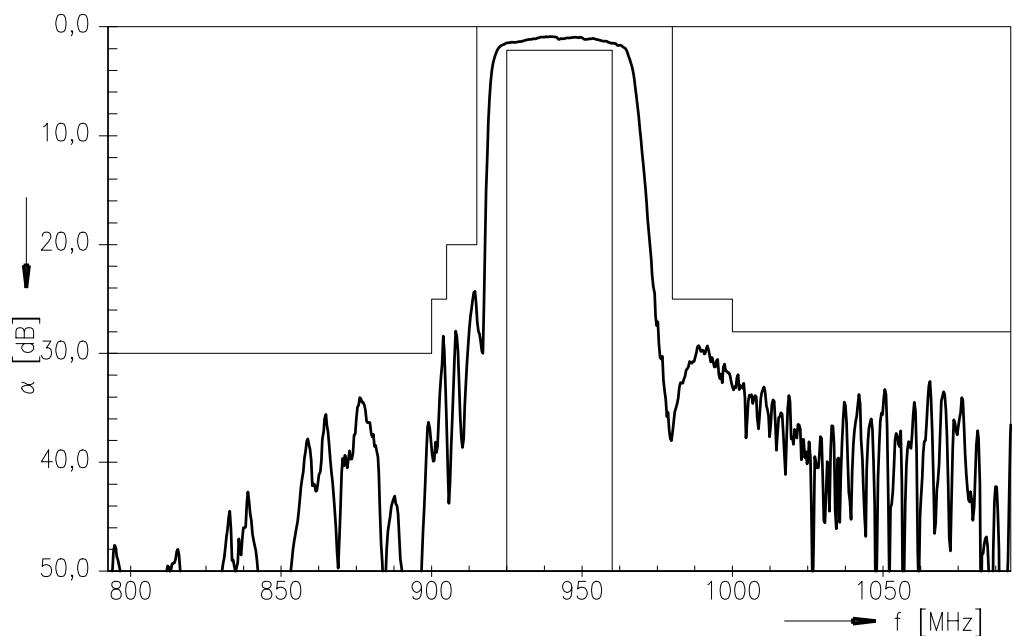
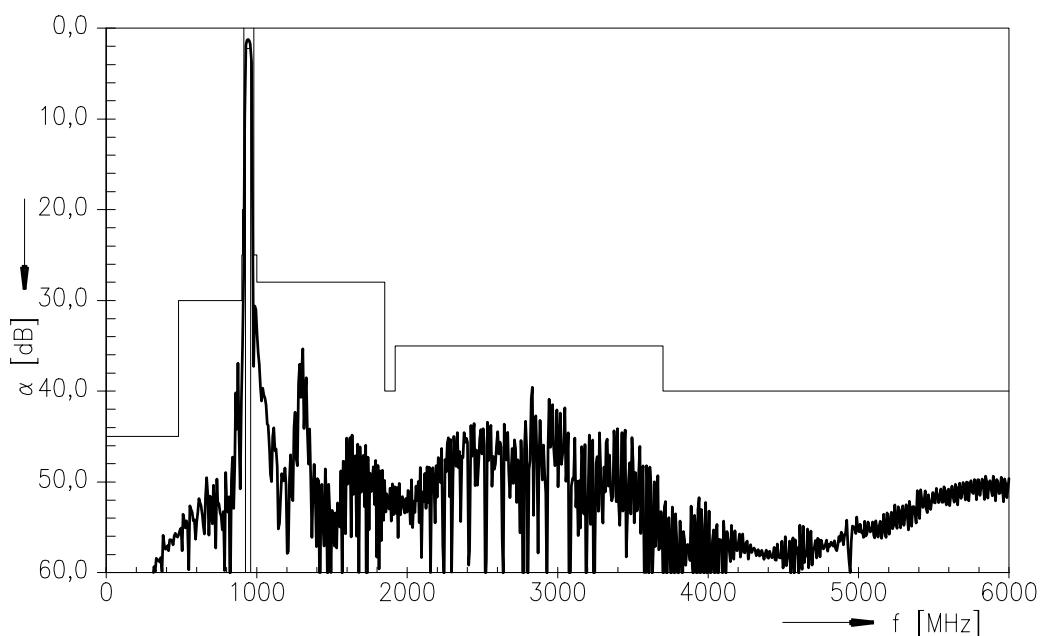
			B9401		
			min.	typ. @ 25°C	max.
Center frequency		f_C	—	942.5	—
Maximum insertion attenuation		α_{\max}	—	1.5	2.1
925.0 ... 960.0	MHz		—	dB	
Amplitude ripple (p-p)		$\Delta\alpha$	—	0.6	1.1
925.0 ... 960.0	MHz		—	dB	
Input VSWR			—	1.7	2.0
925.0 ... 960.0	MHz		—		
Output VSWR			—	1.7	2.0
925.0 ... 960.0	MHz		—		
Output amplitude balance (S_{31}/S_{21})			—	—	—
925.0 ... 960.0	MHz		-1.0	-0.7/0.5	1.0
					dB
Output phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$)			—	—	—
925.0 ... 960.0	MHz		-5	-2/+3	5
					°
Attenuation		α			
0.0 ... 480.0	MHz		45	53	—
480.0 ... 900.0	MHz		30	34	dB
900.0 ... 905.0	MHz		25	28	—
905.0 ... 915.0	MHz		20	24	dB
980.0 ... 1000.0	MHz		25	29	—
1000.0 ... 1850.0	MHz		28	32	dB
1850.0 ... 1920.0	MHz		40	46	—
1920.0 ... 3700.0	MHz		35	43	dB
3700.0 ... 6000.0	MHz		40	48	—
					dB

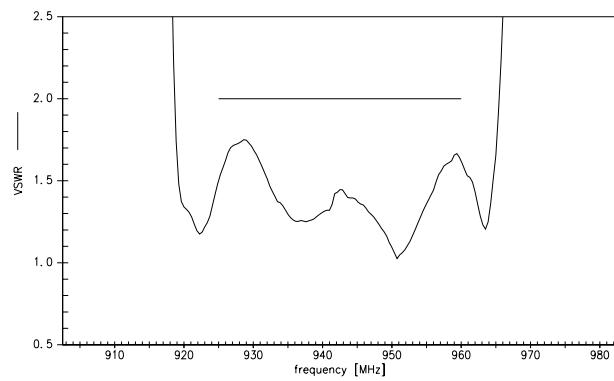
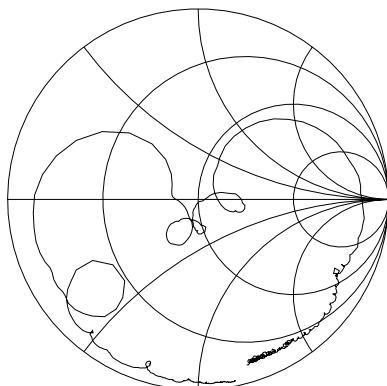
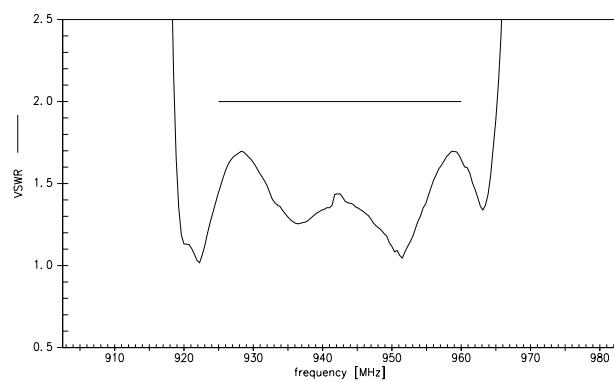
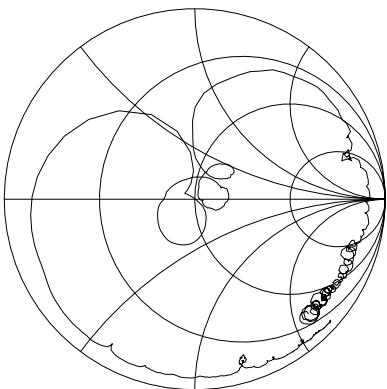
Please read *cautions and warnings and important notes* at the end of this document.

**SAW Components****B9401****Low-Loss Filter for Mobile Communication****942.50 MHz****Data Sheet****Maximum ratings**

Operable temperature range	T	–30/+85	$^{\circ}\text{C}$	
Storage temperature range	T_{stg}	–40/+85	$^{\circ}\text{C}$	
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 (wideband)


SAW Components**B9401****Low-Loss Filter for Mobile Communication****942.50 MHz****Data Sheet****Smith chart / VSWR** **S_{11} function** **S_{22} function**

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**SAW Components****B9401****Low-Loss Filter for Mobile Communication****942.50 MHz****Data Sheet**

Type	B9401	
Ordering code	B39941-B9401-K610	
Marking and Package	C61157-A8-A1	
Packaging	F61074-V8212-Z000	
Date Codes	L_1126	
S-Parameters	B9401_NB.s3p B9401_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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Surface Acoustic Wave Components Division

P.O. Box 80 17 09, 81617 Munich, GERMANY

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Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru
moschip.ru_4

moschip.ru_6
moschip.ru_9