SAW Components

SAW Rx Filter

GSM 900

Series/Type:	**B9401**
Ordering code:	**B39941-B9401-K610**
Date:	Oct 21, 2005
Version:	1

EPCOS

SAW Components **B9401**

Low-Loss Filter for Mobile Communication **942.50 MHz**

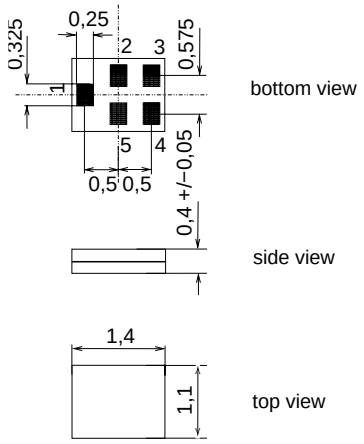
Data Sheet SMD

Application

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

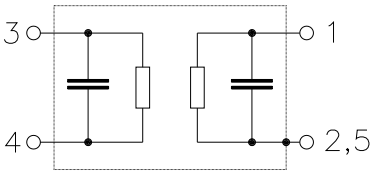
Features

- Package size 1.4 x1.1 x 0.4 mm³
- RoHS compliant
- Approx. weight 0.003 g
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals



Pin configuration

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



Data Sheet SMD

Characteristics

Operating temperature range: T = –20 to +75 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 150 Ω || 82 nH (balanced)

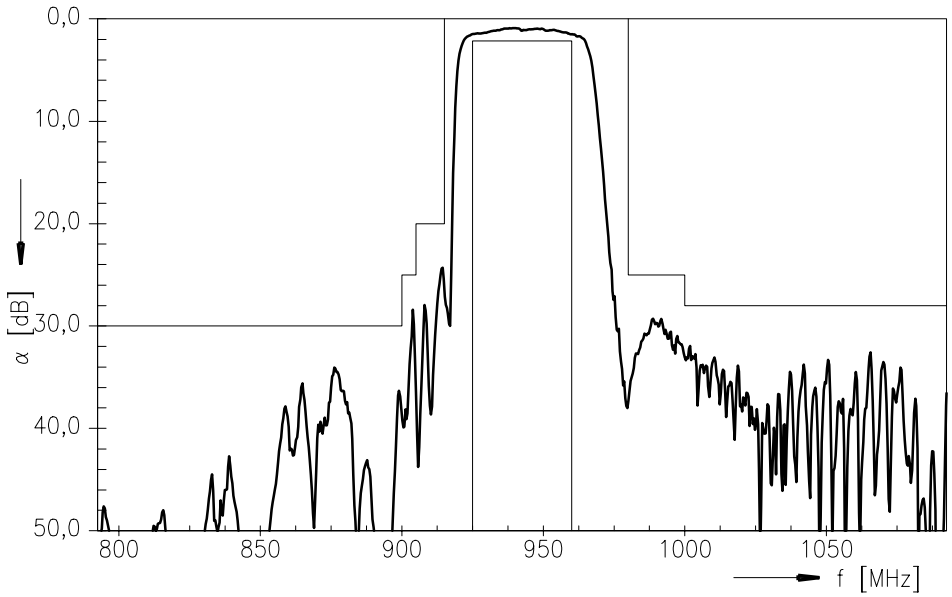
		B9401			
		min.	typ. @ 25°C	max.	
Center frequency	f_C	—	942.5	—	MHz
Maximum insertion attenuation	α_{max}				
925.0 ... 960.0 MHz		—	1.5	2.1	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
925.0 ... 960.0 MHz		—	0.6	1.1	dB
Input VSWR					
925.0 ... 960.0 MHz		—	1.7	2.0	
Output VSWR					
925.0 ... 960.0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

Maximum ratings

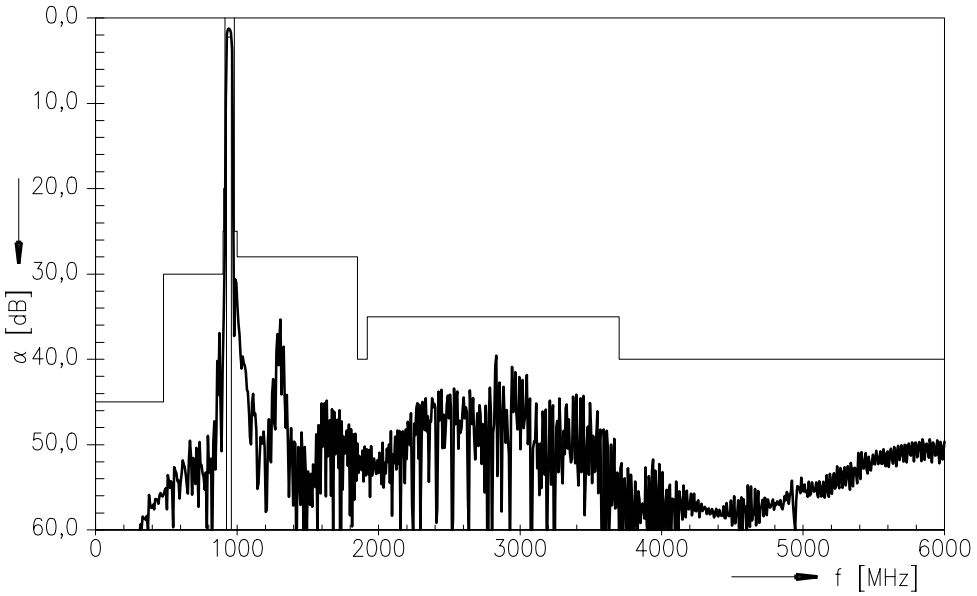
Operable temperature range	T	–30/+85	˚C	
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	100 [1)]	V	machine model, 10 pulses
Input Power at				
GSM850, GSM900	P_{IN}	15	dBm	effective power in the on-state,
GSM1800, GSM1900	P_{IN}	15	dBm	duty cycle 4:8
Tx bands				

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

Transfer function (passband)

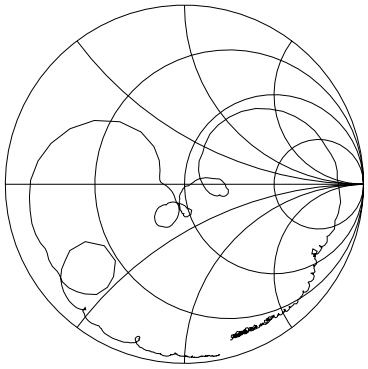


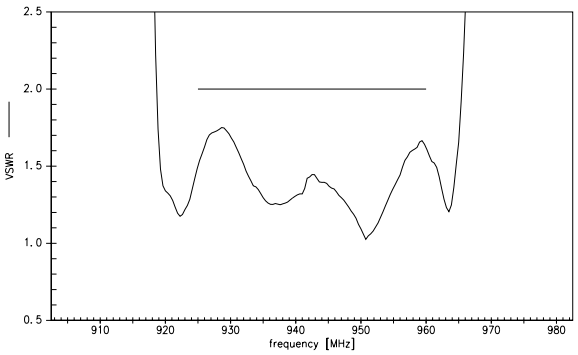
Transfer function (wideband)



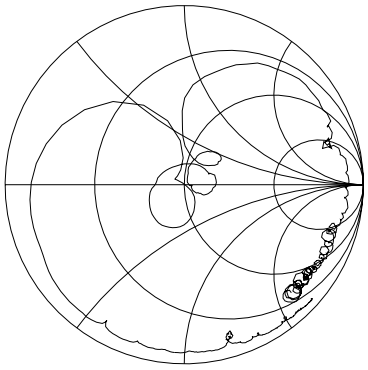
Smith chart / VSWR

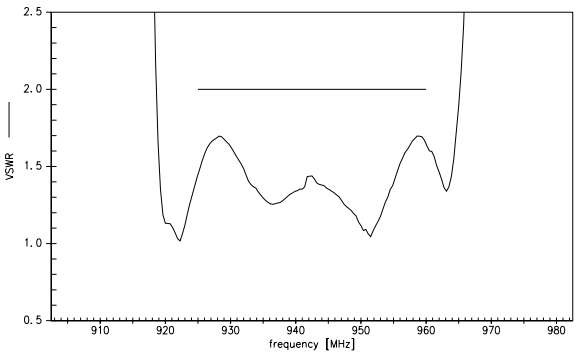
S_{11} function





S_{22} function





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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