SAW Components

SAW Rx Filter

GSM 1900

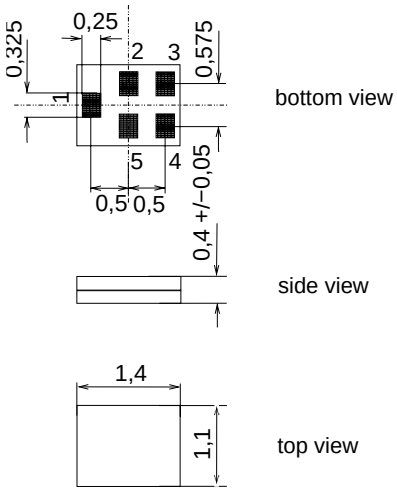
Series/Type:	**B9403**
Ordering code:	**B39202-B9403-K610**
Date:	Oct 21, 2005
Version:	2

Application

- Low-loss RF filter for mobile telephone GSM 1900 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 60 MHz
- Suitable for GPRS class 1 to 12

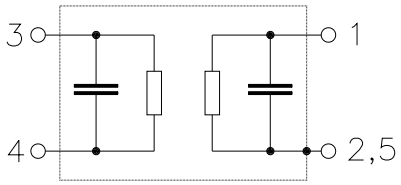
Features

- 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 = 50Ω
Terminating load impedance: Z_L = 150 Ω || 18 nH (balanced)

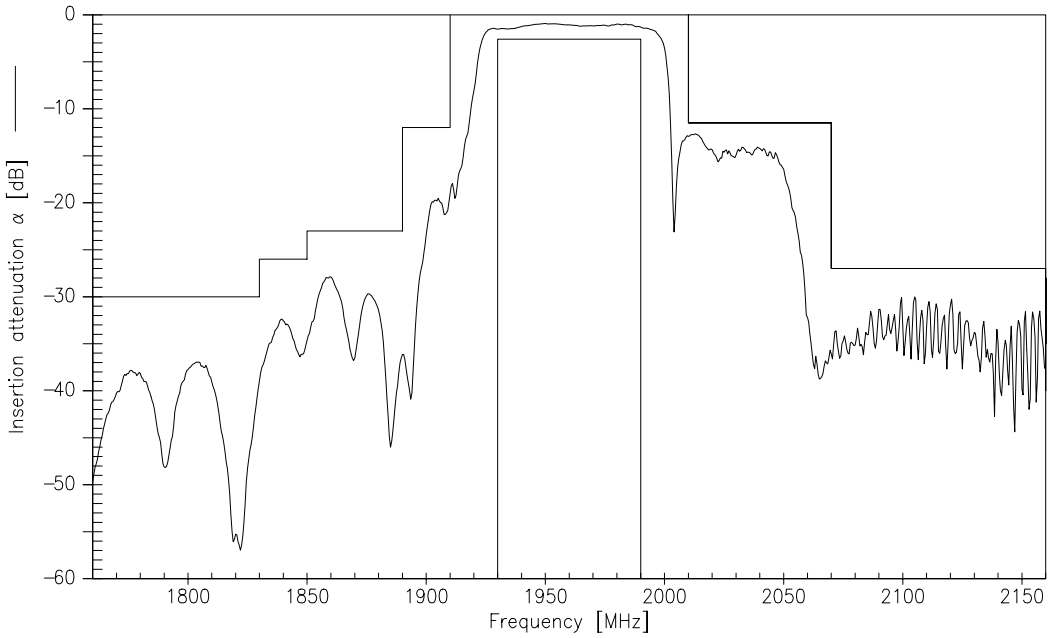
		min.	typ. @ 25°C	max.	
Center frequency	f_C	—	1960	—	MHz
Maximum insertion attenuation	α_{max}				
1930.0 ... 1990.0 MHz		—	1.6	2.6	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1930.0 ... 1990.0 MHz		—	0,7	1.4	dB
Input VSWR					
1930.0 ... 1990.0 MHz		—	1.7	2.2	
Output VSWR					
1930.0 ... 1990.0 MHz		—	1.7	2.2	
Output amplitude balance ($\|S_{31}/S_{21}\|$)					
1930.0 ... 1990.0 MHz		–1.2	-0.6/0.5	1.2	dB
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180°$)					
1930.0 ... 1990.0 MHz		–10	-1/+4	10	°
Attenuation	α				
0.0 ... 1510.0 MHz		40	46	—	dB
1510.0 ... 1830.0 MHz		30	37	—	dB
1830.0 ... 1850.0 MHz		26	32	—	dB
1850.0 ... 1890.0 MHz		23	28	—	dB
1890.0 ... 1910.0 MHz		12	18	—	dB
2010.0 ... 2070.0 MHz		11.5	12.5	—	dB
2070.0 ... 2400.0 MHz		27	29	—	dB
2400.0 ... 2500.0 MHz		35	42	—	dB
2500.0 ... 3860.0 MHz		28	33	—	dB
3860.0 ... 3980.0 MHz		40	49	—	dB
3980.0 ... 5790.0 MHz		28	42	—	dB
5790.0 ... 6000.0 MHz		35	45	—	dB

Maximum ratings

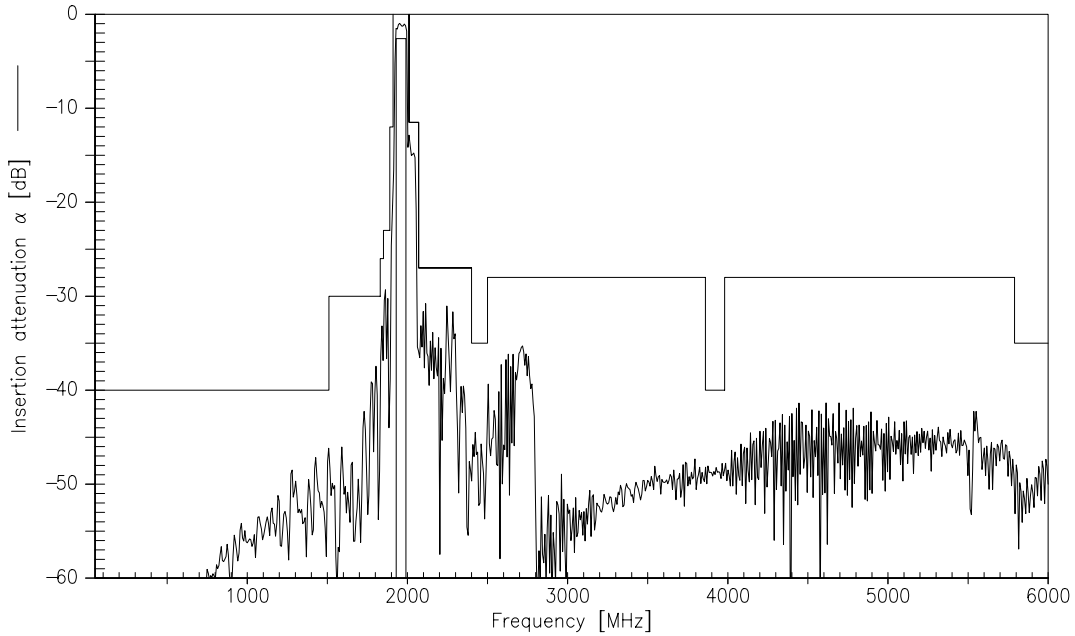
Operable temperature range	T	–30/+85	˚C	
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	50 [1)]	V	machine model, 10 pulses
Input Power at				
GSM850, GSM900	P_{IN}	15	dBm	effective power in the on-state,
GSM1800, GSM1900	P_{IN}	15	dBm	duty cycle 4:8
Tx bands				

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

Transfer function

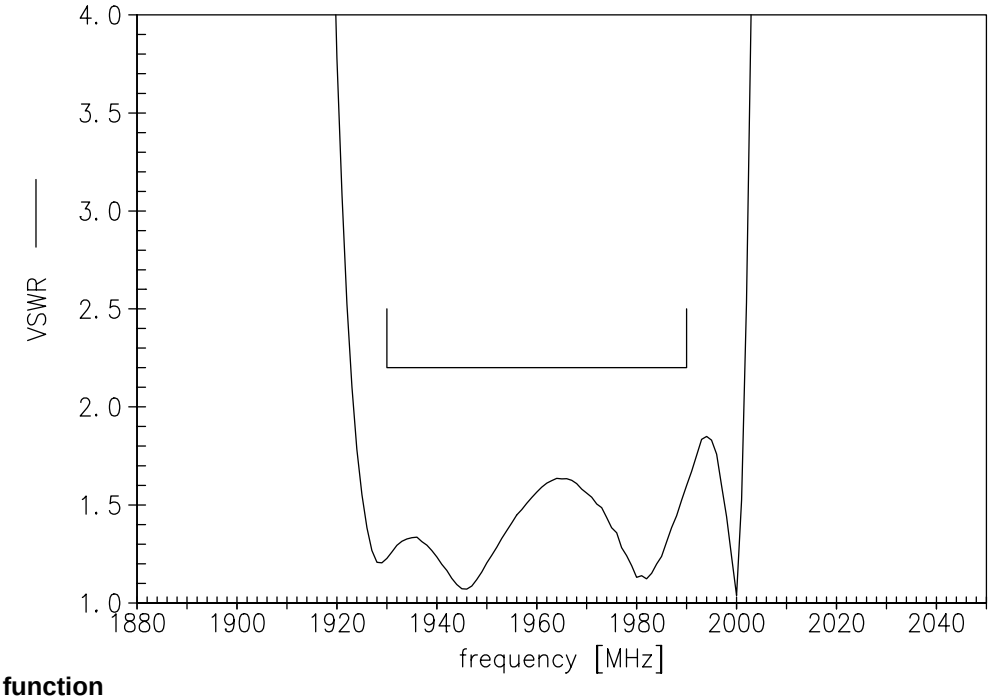


Transfer function

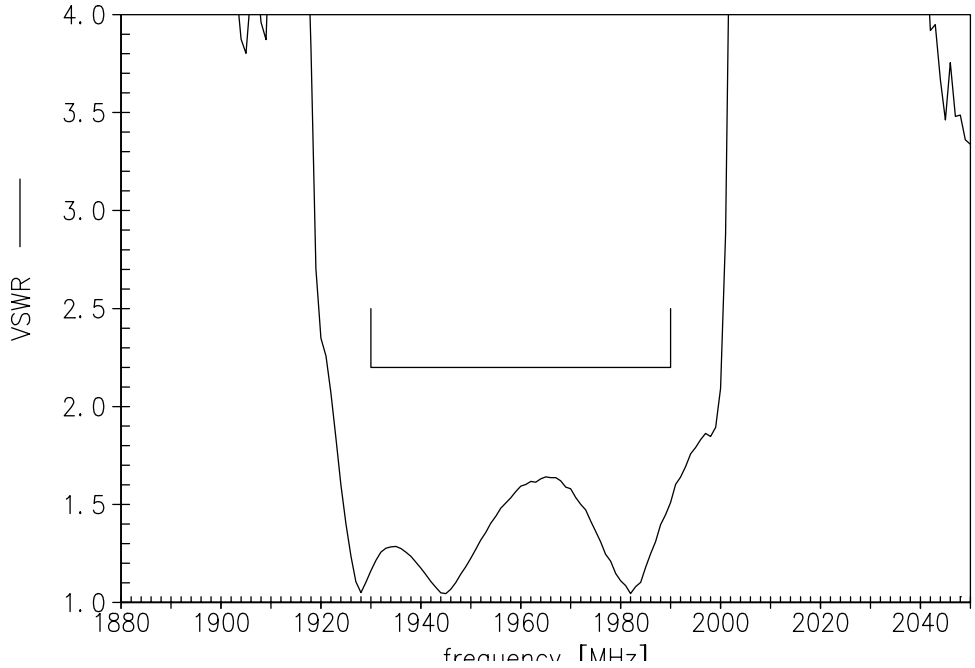


Matching

S_{11} function



S_{22} function



Type	B9403	
Ordering code	B39202-B9403-K610	
Marking and Package	C61157-A8-A1	
Packaging	F61074-V8212-Z000	
Date Codes	L_1126	
S-Parameters	B9403_NB.s3p B9403_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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