SAW Components

SAW Rx Filter

GSM 1800

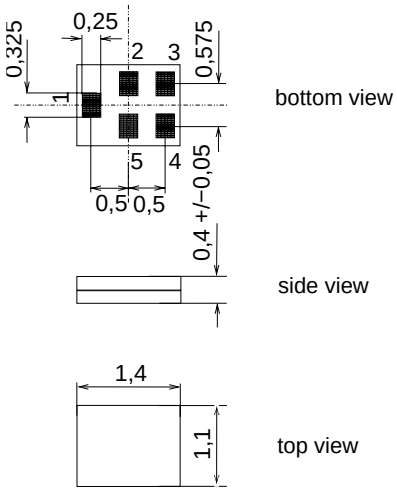
Series/Type:	**B9406**
Ordering code:	**B39182-B9406-K610**
Date:	Nov 30, 2005
Version:	2.0

Application

- Low-loss RF filter for mobile telephone GSM 1800 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 75 MHz
- Suitable for GPRS class 1 to 12

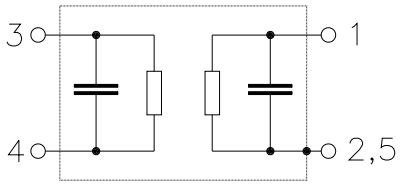
Features

- 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



Characteristics

Operating temperature range: T = –10 to +85 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 100 Ω || 12 nH (balanced)

		B9406			
		min.	typ. @ 25°C	max.	
Center frequency	f_C	—	1842.5	—	MHz
Maximum insertion attenuation	α_{max}				
1805.0 ... 1880.0 MHz		—	2.1	2.8	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1805.0 ... 1880.0 MHz		—	0.8	1.5	dB
Input VSWR					
1805.0 ... 1880.0 MHz		—	1.9	2.3	
Output VSWR					
1805.0 ... 1880.0 MHz		—	1.9	2.3	
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
1805.0 ... 1880.0 MHz		–1.2	-0.4/0.8	1.2	dB
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180°$)					
1805.0 ... 1880.0 MHz		–10	-2/+7	10	°
Common mode suppression	S_{cs21}				
824.0 ... 995.0 MHz		20	42	—	dB
1648.0 ... 1990.0 MHz		20	25	—	dB
1805.0 ... 1880.0 MHz		20	25	—	dB
3296.0 ... 3980.0 MHz		20	28	—	dB
Attenuation	α				
0.0 ... 1705.0 MHz		40	43	—	dB
1705.0 ... 1785.0 MHz		10	19	—	dB
1920.0 ... 1980.0 MHz		20	27	—	dB
1980.0 ... 2400.0 MHz		28	31	—	dB
2400.0 ... 2500.0 MHz		35	42	—	dB
2500.0 ... 4000.0 MHz		30	38	—	dB
4000.0 ... 6000.0 MHz		30	48	—	dB
6000.0 ...12700.0 MHz		—		—	dB

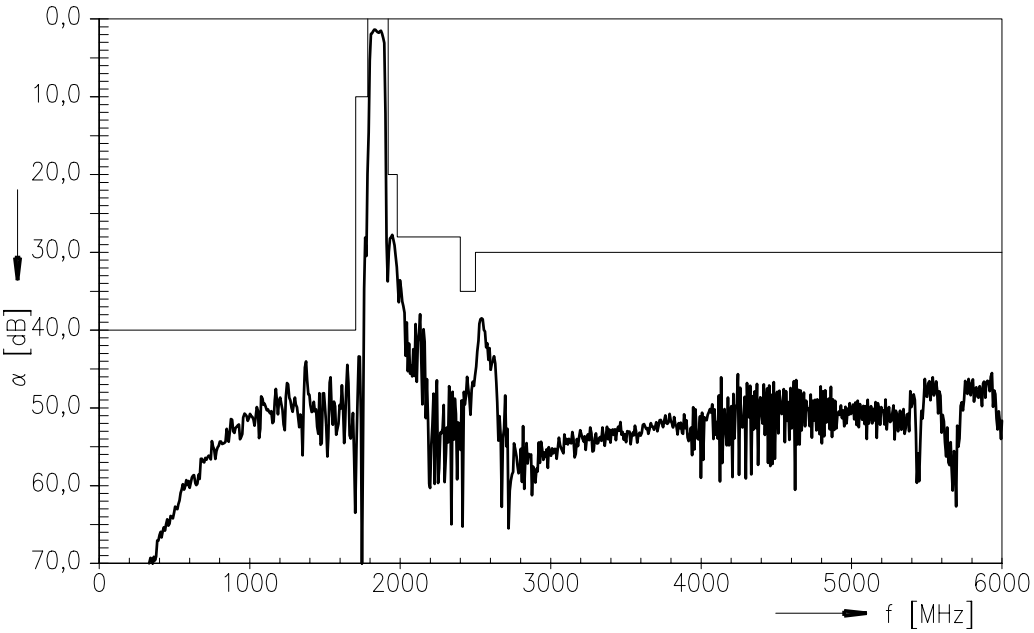
Maximum ratings

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}	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.

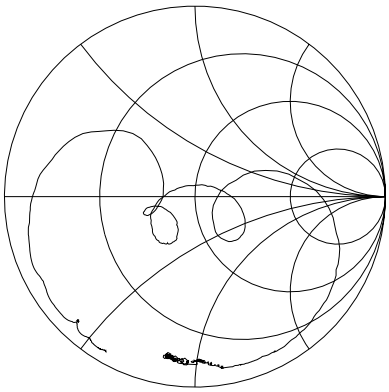
Transfer function

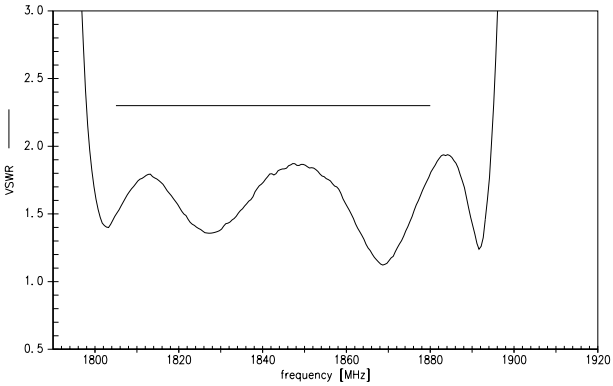
Transfer function



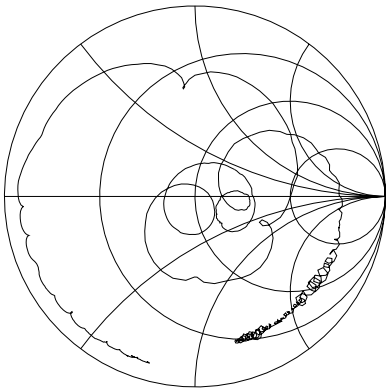
Smith chart / VSWR

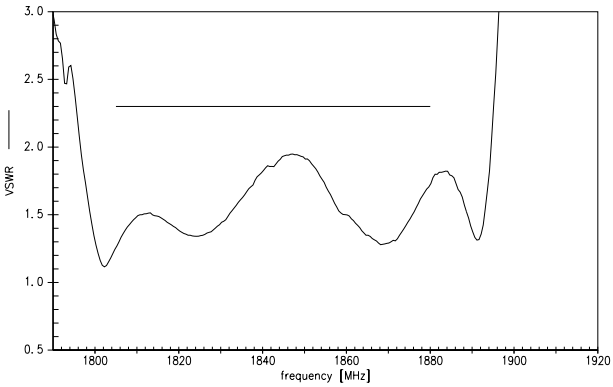
S_{11} function





S_{22} function





Type	B9406	
Ordering code	B39182-B9406-K610	
Marking and Package	C61157-A8-A1	
Packaging	F61074-V8212-Z000	
Date Codes	L_1126	
S-Parameters	B9406_NB.s3p B9406_WB.s3p	
Soldering profile	S_6001	

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