SAW Components

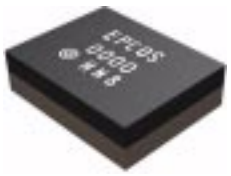
SAW Rx Filter

WCDMA Band I

Series/Type:	**B9412**
Ordering code:	**B39212B9412M510**
Date:	Nov 24, 2006
Version:	2.3

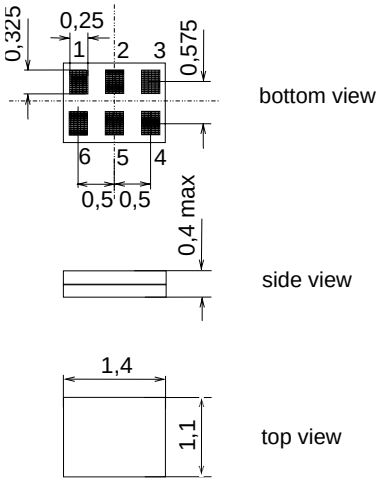
Application

- Low-loss RF filter for mobile telephone WCDMA system (Band I), receive path (RX)
- Usable passband 60 MHz
- Balanced to balanced operation
- Pb-free



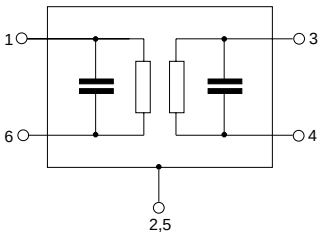
Features

- Package size 1.4 x 1.1 x 0.4 mm³
- Package code DCT6A
- RoHS compatible
- Approx. weight 0.003 g
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- **E**lectrostatic **S**ensitive **D**evice (ESD)



Pin configuration

- 1,6 Input, balanced
- 3,4 Output, balanced
- 2,5 Case ground



Characteristics

Temperature range for specification: T = –10 to +85 °C
Terminating source impedance: Z_S = 100 Ω (balanced)
Terminating load impedance: Z_L = 100 Ω (balanced)

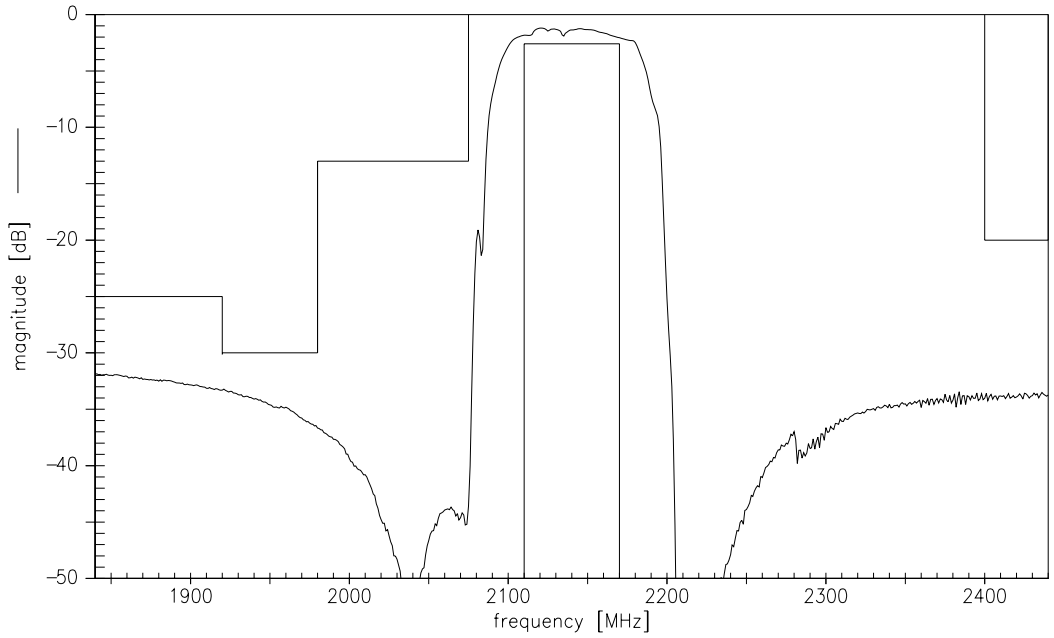
		min.	typ. @ 25°C	max.	
Center frequency	f_C	—	2140.0	—	MHz
Maximum insertion attenuation	α_{max}				
2110.0 ... 2170.0 MHz		—	2.1	2.5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
2110.0 ... 2170.0 MHz		—	0.9	1.3	dB
Amplitude ripple per 5 MHz channel (p-p)	$\Delta\alpha_{5MHz}$				
2110.0 ... 2170.0 MHz		—	0.7	0.9	dB
Group delay variation over frequency on 5 MHz channel	$\Delta\tau$				
2110.0 ... 2170.0 MHz		—	14	20	ns
Output phase balance ($\phi(S_{out2})-\phi(S_{out1})+180°$)					
2110.0 ... 2170.0 MHz		-10	± 5	10	°
Output amplitude balance ($\lvert S_{out2}/S_{out1}\rvert$)					
2110.0 ... 2170.0 MHz		-1.0	± 0.5	1.0	dB
Input VSWR	$vswr_{IN}$				
2110.0 ... 2170.0 MHz		—	1.8	2.1	
Output VSWR	$vswr_{OUT}$				
2110.0 ... 2170.0 MHz		—	1.8	2.1	
Attenuation	α_{min}				
0.3 ... 1920.0 MHz		25	32	—	dB
1920.0 ... 1980.0 MHz		30	33	—	dB
1980.0 ... 2075.0 MHz		13	35	—	dB
2400.0 ... 6000.0 MHz		20	33	—	dB

Maximum ratings

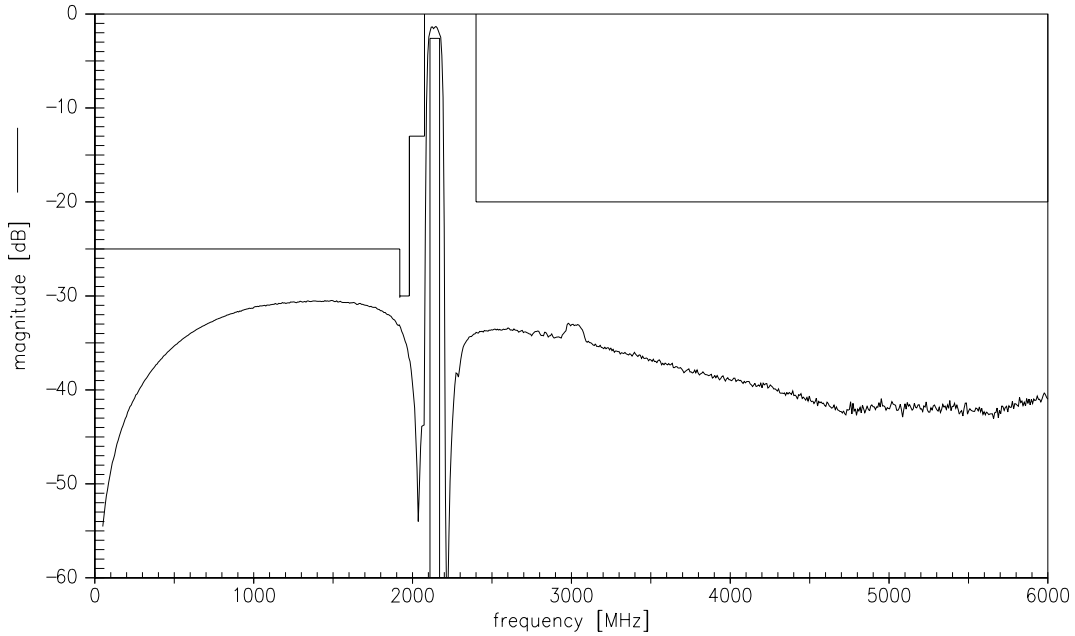
Operable temperature range	T	–10/+85	˚C	
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	100 [1)]	V	Machine model, 10 pulses
Input Power	P_{IN}	13	dBm	CW signal

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

Transfer function (narrowband)

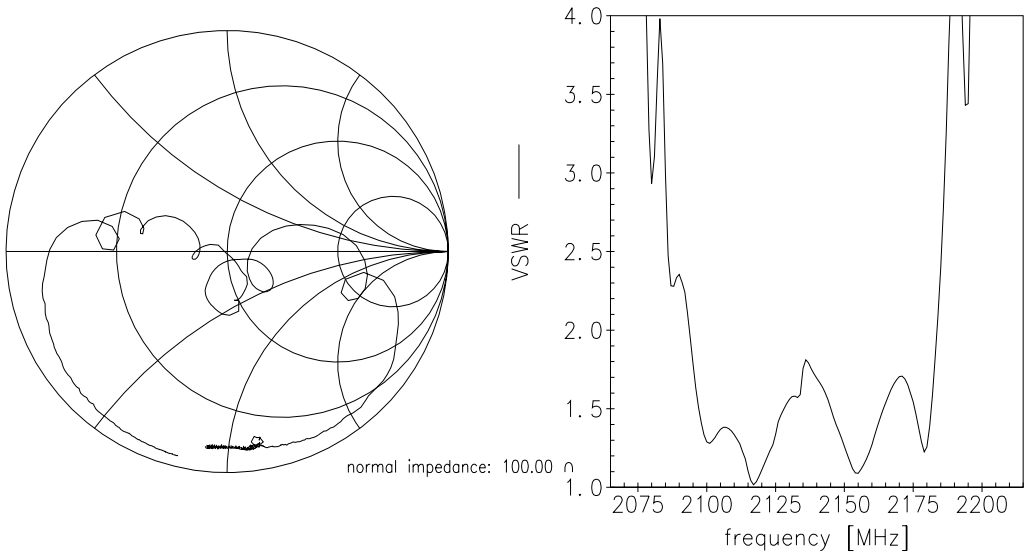


Transfer function (wideband)

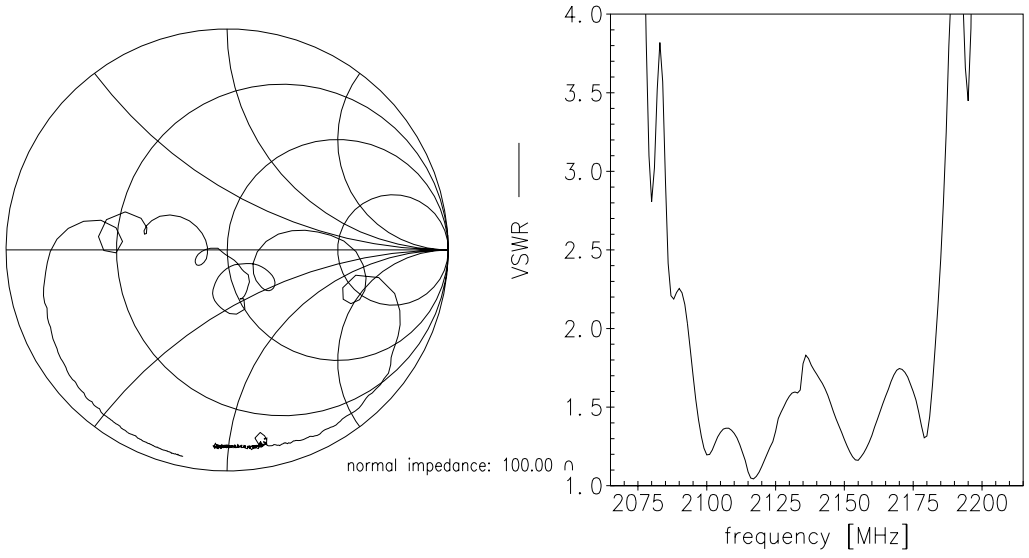


Smith chart

S_{11} function



S_{22} function



References

Type	B9412
Ordering code	B39212B9412M510
Marking and Package	C61157-A8-A2
Packaging	F61074-V8212-Z000
Date Codes	L_1126
S-Parameters	B9412_NB.s4p B9412_WB.s4p
Soldering profile	S_6001
RoHS compatible	defined as compatible with the following documents: "DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. 2005/618/EC from April 18th, 2005, amending Directive 2002/95/EC of the European Parliament and of the Council for the purposes of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment."
Moldability	Before using in overmolding environment, please contact your EPCOS sales office.

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Published by EPCOS AG
Surface Acoustic Wave Components Division
P.O. Box 80 17 09, 81617 Munich, GERMANY

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