



SAW Components

SAW Rx Filter

WCDMA Band I

Series/Type:	B9412
Ordering code:	B39212B9412M510
Date:	Aug 24, 2006
Version:	2.2



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B9412

Low-Loss Filter for Mobile Communication

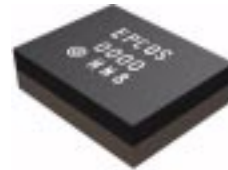
2140.0 MHz

Data Sheet



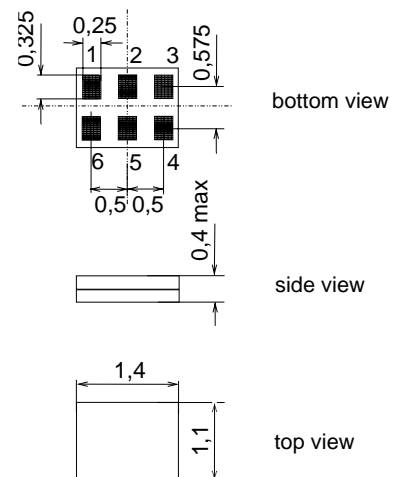
Application

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



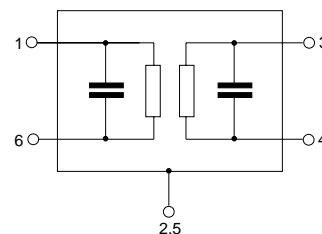
Features

- Package size 1.4 x 1.1 x 0.4 mm³
- Package code DCT6A
- RoHS compatible
- Approx. weight 0.003 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**



Pin configuration

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





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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}	—	2.1	2.5	dB
2110.0 ... 2170.0 MHz					
Amplitude ripple (p-p)	$\Delta\alpha$	—	0.9	1.3	dB
2110.0 ... 2170.0 MHz					
Amplitude ripple per 5 MHz channel (p-p)	$\Delta\alpha_{5\text{MHz}}$	—	0.7	0.9	dB
2110.0 ... 2170.0 MHz					
Group delay variation over frequency on 5 MHz channel	$\Delta\tau$	—	14	20	ns
2110.0 ... 2170.0 MHz					
Output phase balance ($\phi(S_{\text{out}2}) - \phi(S_{\text{out}1}) + 180^\circ$)		-10	± 5	10	°
2110.0 ... 2170.0 MHz					
Output amplitude balance ($S_{\text{out}2}/S_{\text{out}1}$)		-1.0	± 0.5	1.0	dB
2110.0 ... 2170.0 MHz					
Input VSWR	VSWR_{IN}	—	1.8	2.1	
2110.0 ... 2170.0 MHz					
Output VSWR	VSWR_{OUT}	—	1.8	2.1	
2110.0 ... 2170.0 MHz					
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

**SAW Components****B9412****Low-Loss Filter for Mobile Communication****2140.0 MHz****Data Sheet****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}	50 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.



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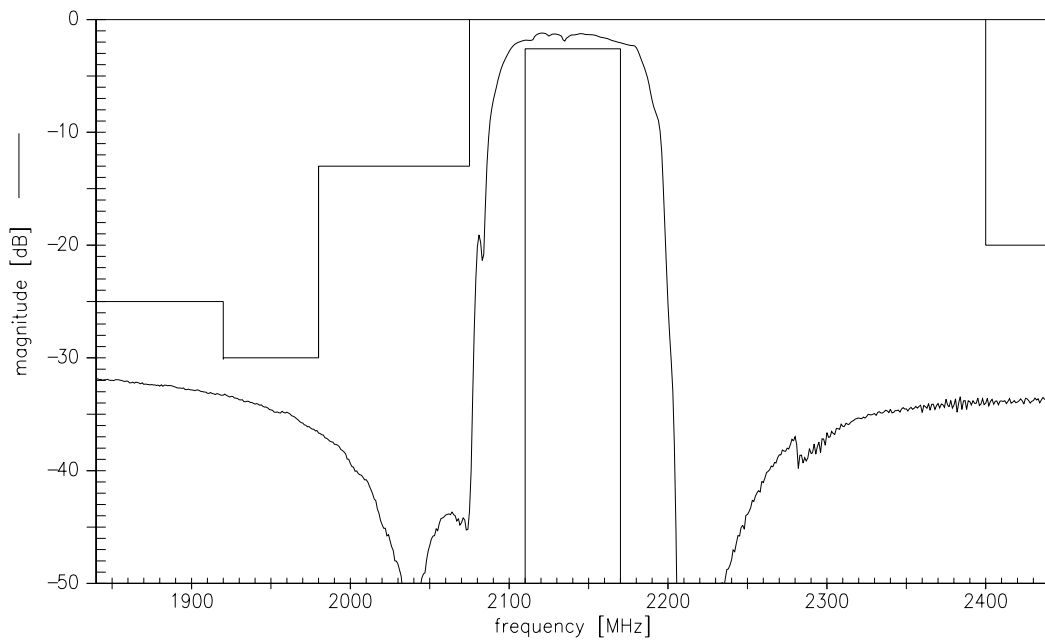
Low-Loss Filter for Mobile Communication

2140.0 MHz

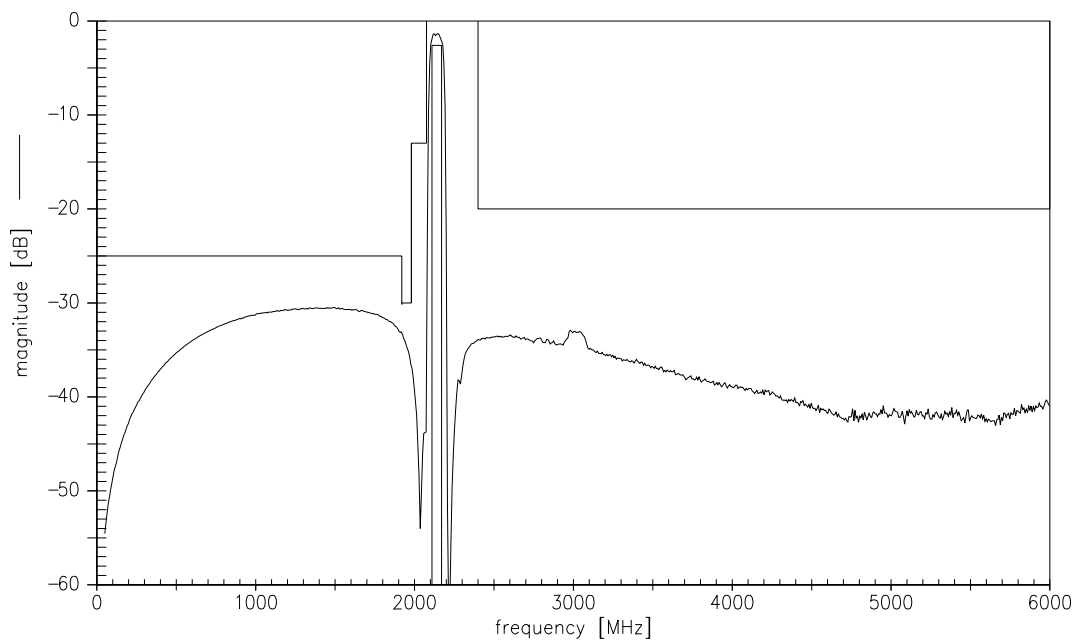
Data Sheet



Transfer function (narrowband)



Transfer function (wideband)



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



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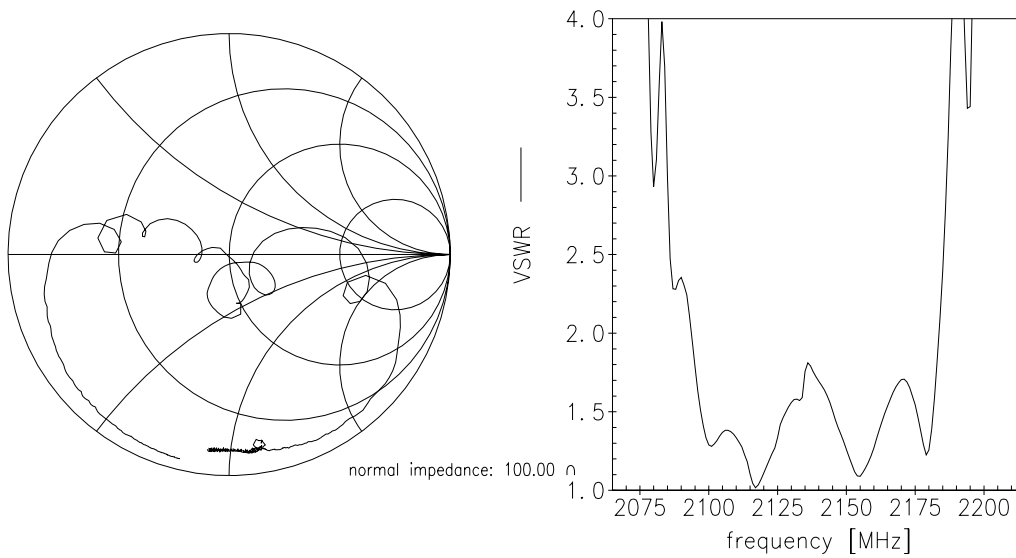
2140.0 MHz

Data Sheet

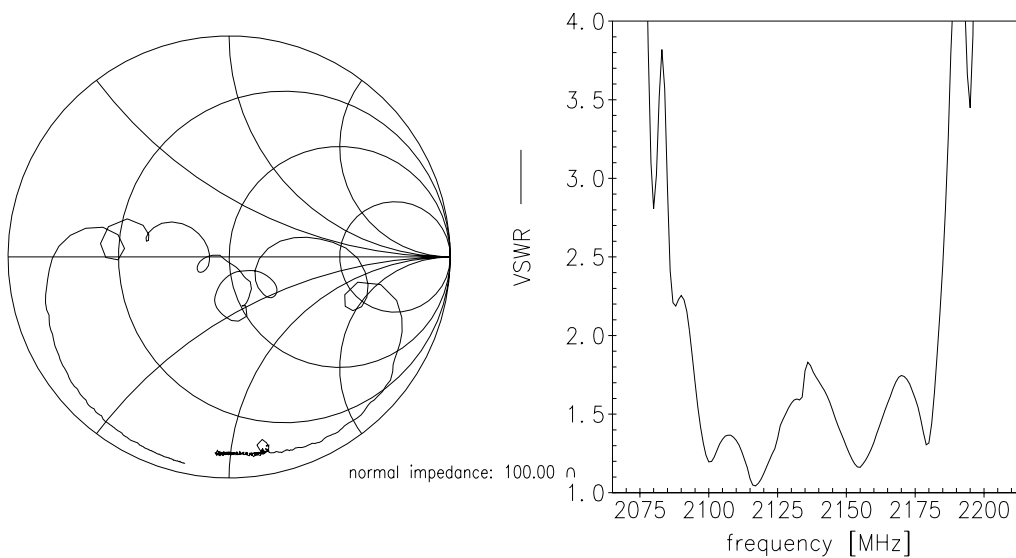


Smith chart

S_{11} function



S_{22} function



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Data Sheet

**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.

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com .

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