



SAW Components

SAW Tx Filter

WCDMA Band I

Series/Type:	B9414
Ordering code:	B39202B9414M410
Date:	November 27, 2008
Version:	2.1



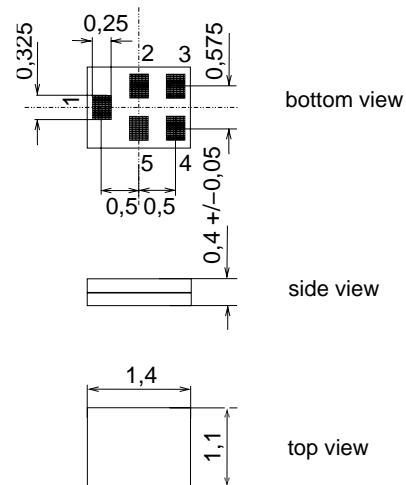
Application

- Low-loss RF filter for mobile telephone WCDMA systems, transmit path (TX)
- Impedance transform from 50 Ω to 50 Ω
- Unbalanced to unbalanced operation
- Very low insertion attenuation
- Low amplitude ripple
- Very low Error Vector Magnitude (EVM)
- High Rx-suppression
- Usable passband 60 MHz



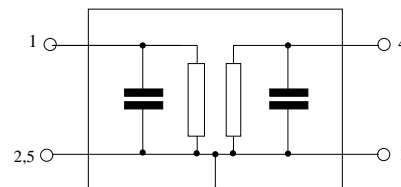
Features

- Package size 1.4 x 1.1 x 0.4 mm³
- Package code QCS51
- RoHS compatible
- Approx. weight 0.003 g
- Package for Surface Mount Technology (SMT)
- Ni, gold-plated terminals
- Electrostatic Sensitive Device (ESD)



Pin configuration

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





Data Sheet



Characteristics

Operating temperature range: $T = -20\text{ °C to }+85\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$ (unbalanced)
 Terminating load impedance: $Z_L = 50\ \Omega$ (unbalanced)

		min.	typ. @ 25 °C	max.	
Center frequency	f_C	—	1950.0	—	MHz
Maximum insertion attenuation	α_{max}				
1920.0 ... 1980.0	MHz	—	2.5	3.2 ¹⁾	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1920.0 ... 1980.0	MHz	—	1.1	1.8 ²⁾	dB
Input VSWR					
1920.0 ... 1980.0	MHz	—	1.8	2.2	
Output VSWR					
1920.0 ... 1980.0	MHz	—	1.8	2.2	
Attenuation	α				
0.0 ... 960.0	MHz	27	34	—	dB
960.0 ... 1575.0	MHz	25	35	—	dB
1575.0 ... 1576.0	MHz	32	35	—	dB
1576.0 ... 1730.0	MHz	30	35	—	dB
1730.0 ... 1880.0	MHz	30	38	—	dB
2025.0 ... 2050.0	MHz	35	54	—	dB
2110.0 ... 2170.0	MHz	35	38	—	dB
2200.0 ... 3100.0	MHz	33	37	—	dB
3100.0 ... 3960.0	MHz	30	42	—	dB
3960.0 ... 6000.0	MHz	20	34	—	dB

¹⁾ ILmax max. 3.0dB at 25 °C

²⁾ AR max. 1.6dB at 25 °C
 EVM 1.3% at 25 °C, 2.2% over temperature



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SAW Filter

1950.0 MHz

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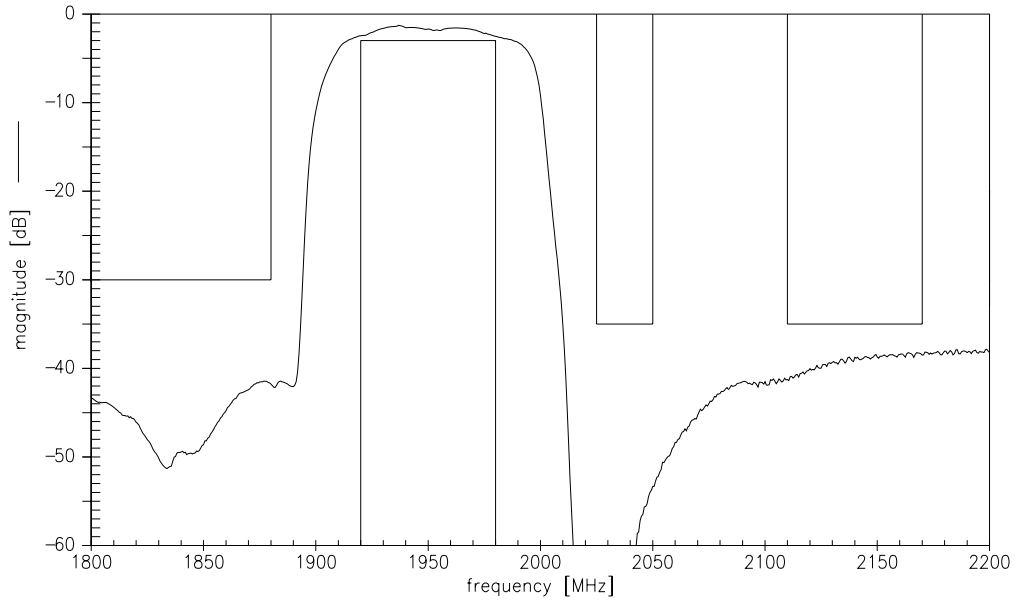
Maximum ratings

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
Source Power	P _S	10	dBm	cw signal

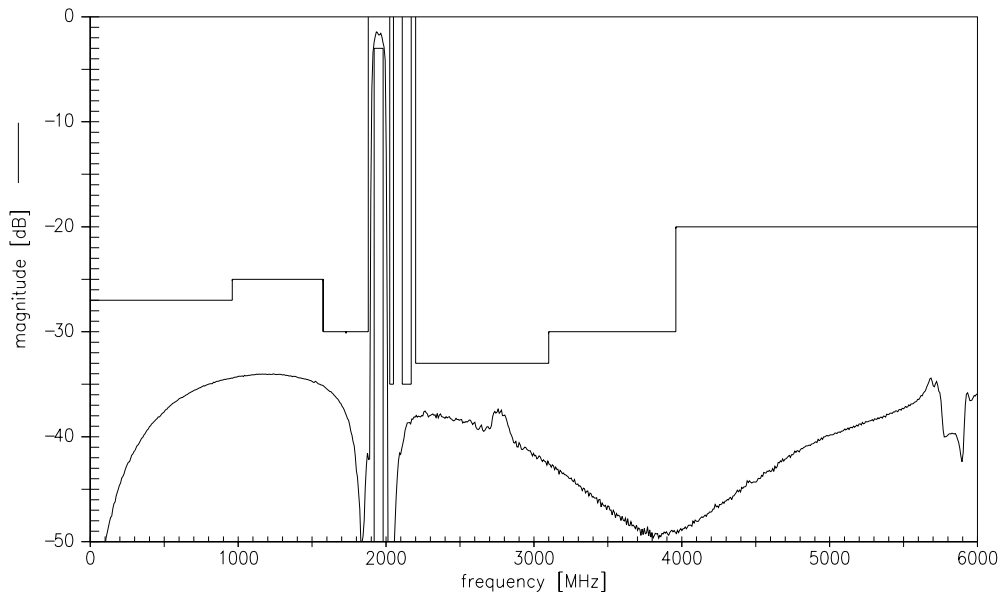
1) acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.



Transfer function



Transfer function (wideband)

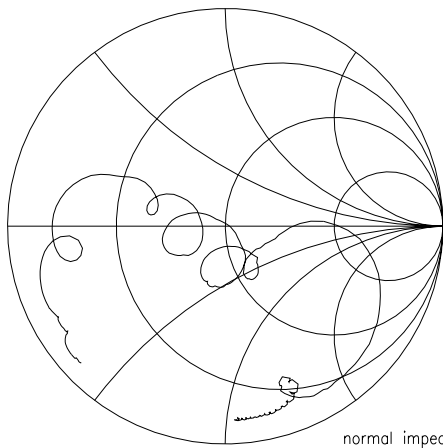


Data Sheet

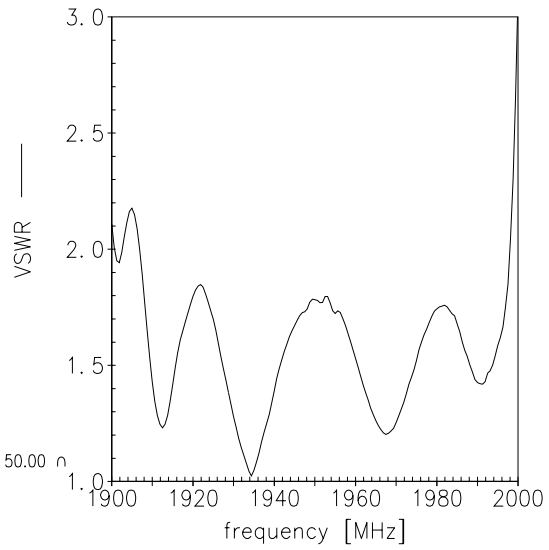


Smith chart

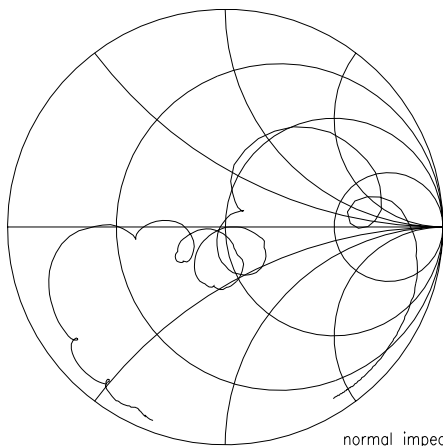
S_{11} function



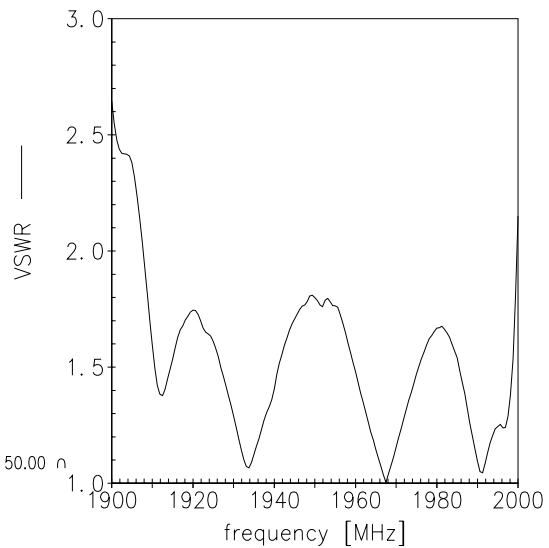
normal impedance: 50.00 Ω



S_{22} function



normal impedance: 50.00 Ω



**SAW Components****B9414****SAW Filter****1950.0 MHz**

Data Sheet



References

Type	B9414
Ordering Code	B39202B9414M410
Marking and Package	C61157-A8-A3
Packaging	F61074-V8237-Z000
Date Codes	L_1126
Soldering profile	S_6001
S-Parameters	B9414_NB.s2p, B9414_WB.s2p see file header for port/pin assignment table
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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