SAW Components

SAW Rx filter

WCDMA band I

Series/type:	**B9433**
Ordering code:	**B39212-B9433-M410**
Date:	Mar. 26, 2007
Version:	2.0

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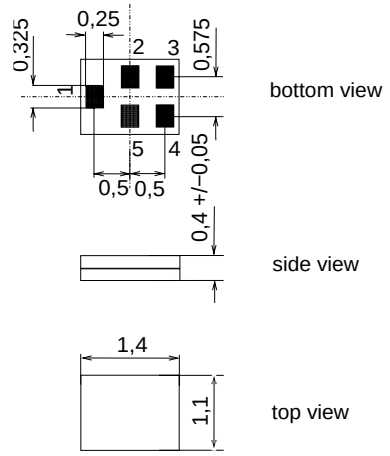
Application

- Low-loss RF filter for mobile telephone WCDMA Band 1 systems, receive path (RX)
- Unbalanced to unbalanced operation
- Low insertion attenuation
- Low amplitude ripple
- High selectivity up to 6 GHz
- Usable passband 60 MHz



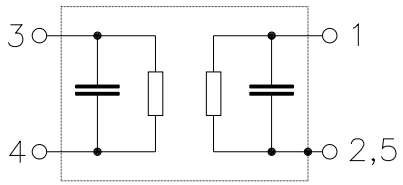
eatures

- Package size 1.4 x1.1 x 0.4 mm³
- Package code QCS5I
- RoHS compatible
- Approximate 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 Unbalanced input
- 4 Unbalanced output
- 2,3,5 To be grounded



Data Sheet SMD

Characteristics

Temperature range for specification: T = –30 ˚C to +85 ˚C
Terminating source impedance: Z_S = 50Ω , 4.0 nH in parallel
Terminating load impedance: Z_L = 50Ω , 1.3 nH in serial

		min.	typ. @ 25 ˚C	max.	
Center frequency	f_C	—	2140.0	—	MHz
Maximum insertion attenuation	α_{max}				
2110.0 ... 2170.0 MHz		—	2.0	2.3 [1]	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
2110.0 ... 2170.0 MHz		—	0.6	1.0	dB
Input VSWR					
2110.0 ... 2170.0 MHz		—	1.5	1.9	
Output VSWR					
2110.0 ... 2170.0 MHz		—	1.5	1.9	
EVM					
2110.0 ... 2170.0 MHz		—	1.0	—	%
Attenuation	α				
100.0 ... 925.0 MHz		46	49	—	dB
925.0 ... 1300.0 MHz		40	44	—	dB
1300.0 ... 1800.0 MHz		38	43	—	dB
1800.0 ... 1920.0 MHz		38	43	—	dB
1920.0 ... 1980.0 MHz		43	49	—	dB
1980.0 ... 2025.0 MHz		30	45	—	dB
2025.0 ... 2050.0 MHz		17	24	—	dB
2050.0 ... 2075.0 MHz		5	9	—	dB
2210.0 ... 2255.0 MHz		12	32	—	dB
2255.0 ... 2300.0 MHz		20	33	—	dB
2300.0 ... 2400.0 MHz		31	38	—	dB
2400.0 ... 2500.0 MHz		35	41	—	dB
2500.0 ... 2800.0 MHz		37	47	—	dB
2800.0 ... 3200.0 MHz		35	39	—	dB
3200.0 ... 6000.0 MHz		40	54	—	dB

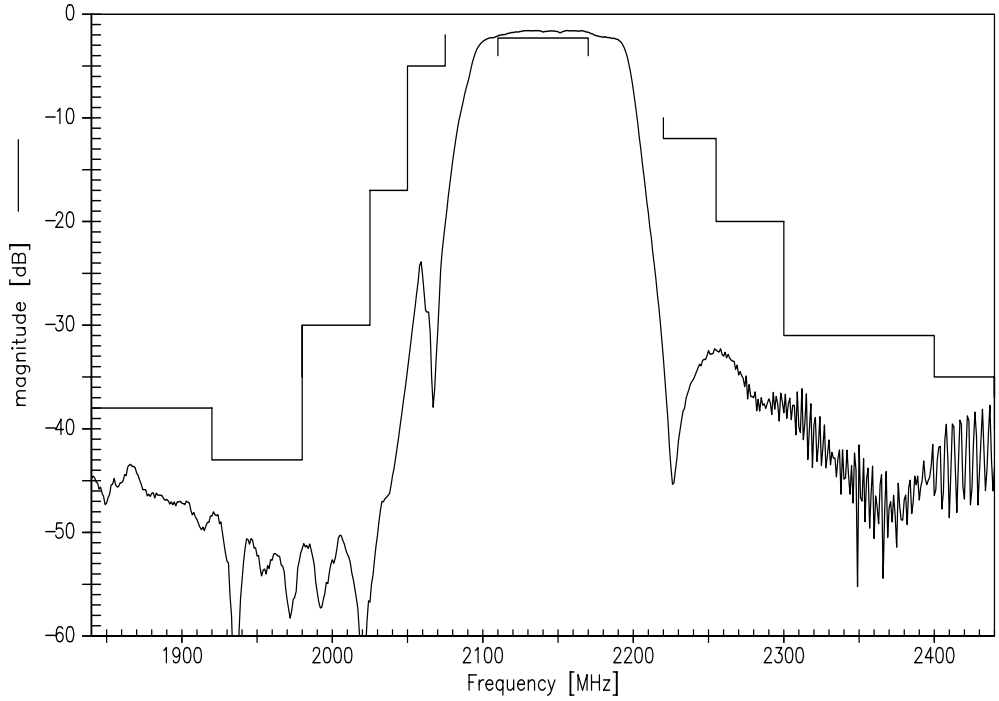
[1] including a pcb loss of 0.2dB

Maximum ratings

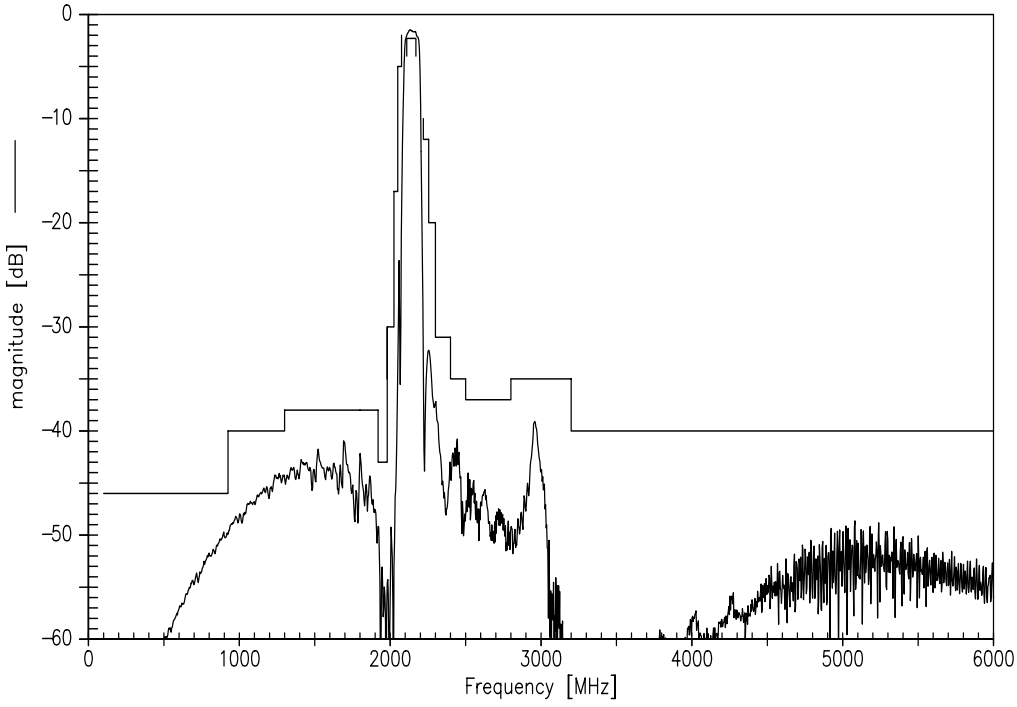
Operable temperature range	T	–30/+85	˚C	
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	50[1)]	V	machine model, 10 pulses
Input power at				
WCDMA Band I	P_{IN}	0	dBm	effective power in the on-state
Tx band	P_{IN}	24	dBm	CW, +65˚C 2000hr

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

Transfer function

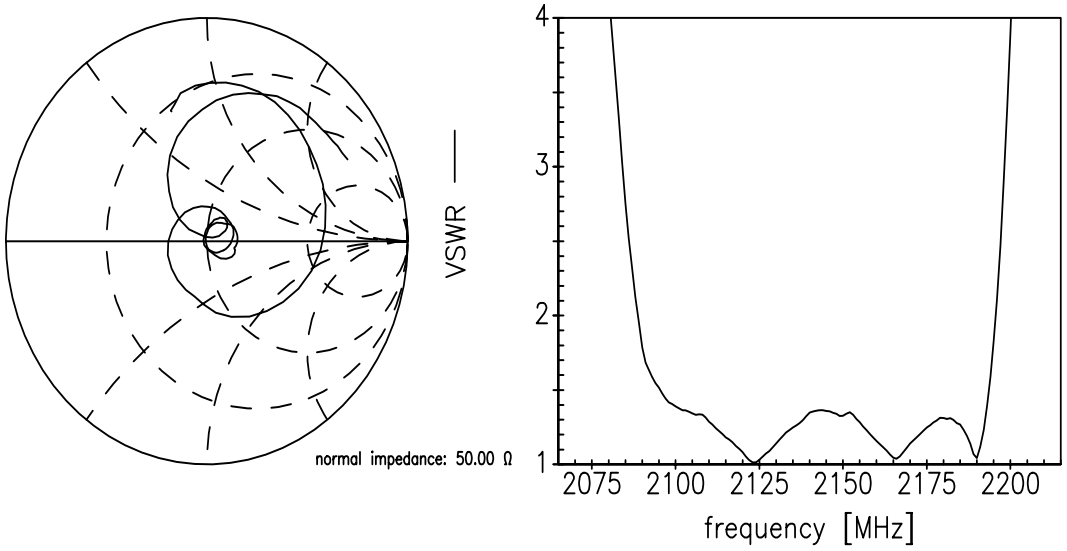


Transfer function (wideband)

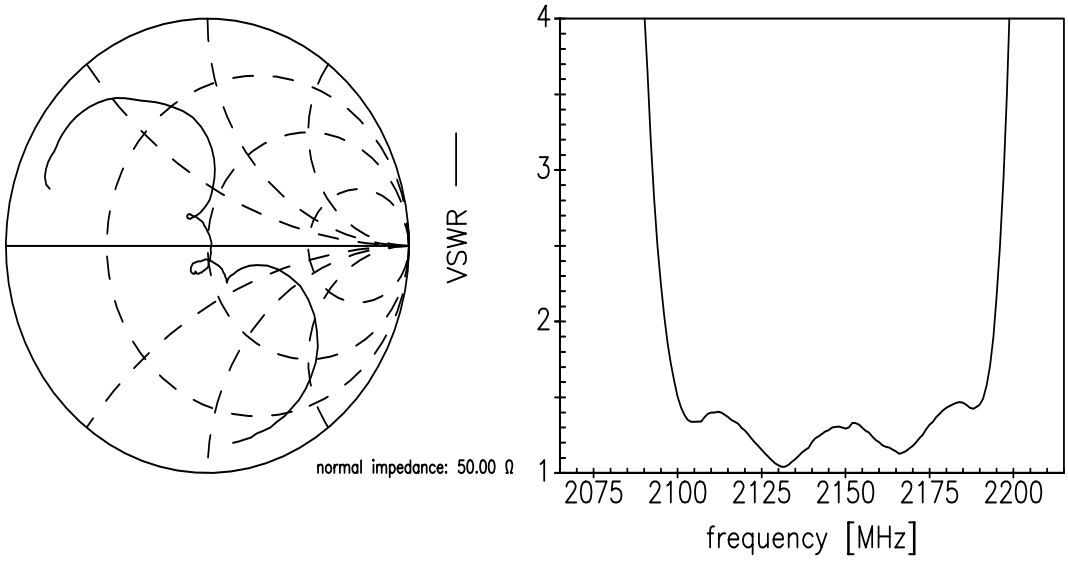


Smith chart

S_{11} function



S_{22} function



References

Type	B9433
Ordering code	B39212-B9433-M410
Marking and package	C61157-A8-A3
Packaging	F61074-V8212-Z000
Date codes	L_1126
S-parameters	B9433_NB.s2p B9433_WB.s2p
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 enviroment, 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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