

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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Data Sheet



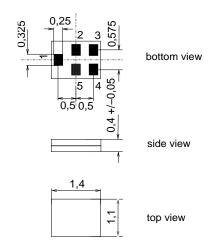
Application

- 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



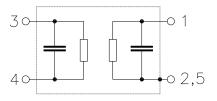
eatures

- Package size 1.4 x1.1 x 0.4 mm³
- Package code QCS5I
- RoHS compatible
- Approximate weight 0.003 g
- Package for Surface Mount Technology (SMT)
- Ni, gold-plated terminals
- Electrostatic Sensitive Device (ESD)



Pin configuration

- 1 Unbalanced input
- 4 Unbalanced output
- 2,3,5 To be grounded





Data Sheet

Characteristics

Temperature range for specification: T = $-30\,^{\circ}\text{C}$ to $+85\,^{\circ}\text{C}$ Terminating source impedance: $Z_{\text{S}} = 50\Omega\,, \, 4.0\,\text{nH}$ in parallel $Z_{\text{L}} = 50\Omega\,, \, 1.3\,\text{nH}$ in serial

		min.	typ. @ 25 °C	max.	
Center frequency	f _C	_	2140.0	_	MHz
Maximum insertion attenuation	$\alpha_{\sf max}$				
2110.0 2170.0 MH	Z	_	2.0	2.3 1)	dB
Amplitude ripple (p-p)	Δα				
2110.0 2170.0 MH	Z	_	0.6	1.0	dB
Input VSWR					
2110.0 2170.0 MH	Z	_	1.5	1.9	
Output VSWR					
2110.0 2170.0 MH	z	_	1.5	1.9	
EVM					
2110.0 2170.0 MH	Z	_	1.0	_	%
Attenuation	α				
100.0 925.0 MH	z	46	49		dB
925.0 1300.0 MH	Z	40	44	_	dB
1300.0 1800.0 MH	Z	38	43	_	dB
1800.0 1920.0 MH		38	43	_	dB
1920.0 1980.0 MH		43	49	_	dB
1980.0 2025.0 MH		30	45	_	dB
2025.0 2050.0 MH	_	17	24	_	dB
2050.0 2075.0 MH		5	9	_	dB
2210.0 2255.0 MH		12	32	_	dB
2255.0 2300.0 MH 2300.0 2400.0 MH		20 31	33		dB dB
2300.0 2400.0 MH 2400.0 2500.0 MH		35	38 41	_	dВ
2500.0 2800.0 MH		35 37	47	_	dВ
2800.0 3200.0 MH		3 <i>7</i> 35	39	_	dB
3200.0 6000.0 MH		40	54		dB
	_	.0	<u> </u>		

¹⁾ including a pcb loss of 0.2dB



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Maximum ratings

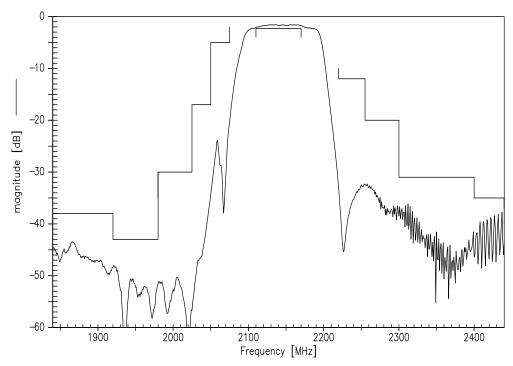
Operable temperature range	Т	-30/+85	°C	
Storage temperature range	T_{stg}	-40/+85	°C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	50 ¹⁾	V	machine model, 10 pulses
Input power at				
WCDMA Band I	P_{IN}	0	dBm	effective power in the on-state
Tx band	P_{IN}	24	dBm	CW, +65°C 2000hr

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

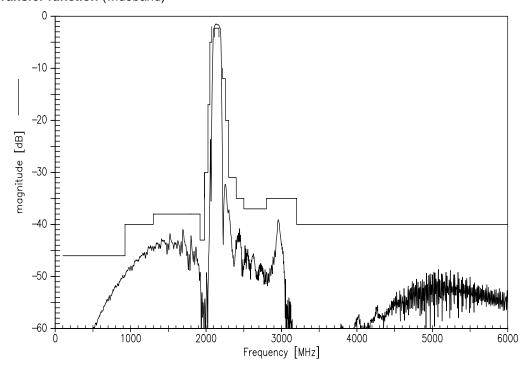


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Transfer function



Transfer function (wideband)





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SAW Rx filter

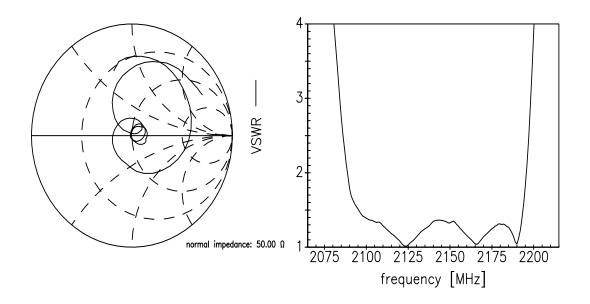
2140.0 MHz

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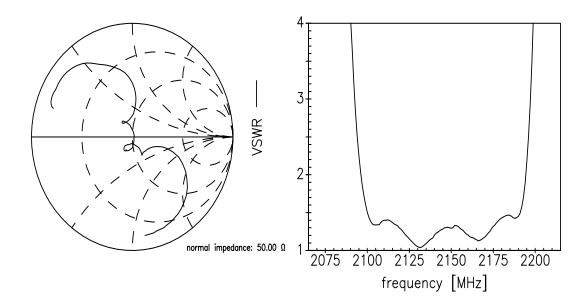
=MD

Smith chart

 S_{11} function



S₂₂ function





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References

Туре	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 environment, please contact your EPCOS sales office.

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