SAW Components

SAW RF filter

WLAN

Series/type:	**B9430**
Ordering code:	**B39252B9430M410**
Date:	September 02, 2008
Version:	2.1

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Revision History

Changes compared to previously issued iteration

Issue	Originator	Detailed specification changes	Date
2.0	K. Morozumi	Initial release	Jul. 11, 2007
2.1	K. Morozumi	changed Lg_out, 1.4nH -> 1.5nH	Sep. 02, 2008

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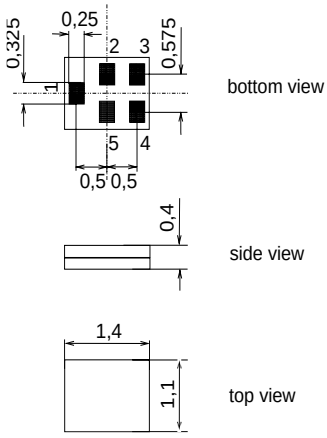
Application

- Low-loss RF filter for WLAN
- Unbalanced to unbalanced operation
- Low insertion attenuation
- Usable passband 100 MHz

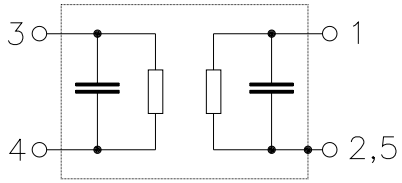
Features

- Package size 1.4 x1.1 x 0.4 mm^3
- 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
- 3 Output ground
- 2,5 To be grounded



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Data Sheet SMD

Characteristics

Temperature range for specification: T = +25 ˚C
Terminating source impedance: Z_S = 50Ω + matching network
Terminating load impedance: Z_L = 50Ω + matching network

		min.	typ. @ 25 ˚C	max.	
Center frequency	f_C	—	2450.0	—	MHz
Maximum insertion attenuation	α_{max}				
2400.0 ... 2500.0 MHz		—	2.2	2.6 [1]	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
2400.0 ... 2500.0 MHz		—	0.7	1.2	dB
Input VSWR					
2400.0 ... 2500.0 MHz		—	1.7	2.0	
Output VSWR					
2400.0 ... 2500.0 MHz		—	1.7	2.0	
Attenuation	α				
100.0 ... 960.0 MHz		33	36	—	dB
960.0 ... 1570.0 MHz		32	34	—	dB
1570.0 ... 1580.0 MHz		32	34	—	dB
1580.0 ... 1710.0 MHz		32	34	—	dB
1710.0 ... 1910.0 MHz		32	34	—	dB
1910.0 ... 1980.0 MHz		32	34	—	dB
2110.0 ... 2170.0 MHz		36	40	—	dB
2750.0 ... 3200.0 MHz		15	19	—	dB
3200.0 ... 4900.0 MHz		15	19	—	dB
4900.0 ... 6000.0 MHz		25	29	—	dB

[1] including a pcb loss of 0.2dB

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Data Sheet SMD

Characteristics

Temperature range for specification: T = –30 ˚C to +85 ˚C
Terminating source impedance: Z_S = 50Ω + matching network
Terminating load impedance: Z_L = 50Ω + matching network

		min.	typ. @ 25 ˚C	max.	
Center frequency	f_C	—	2450.0	—	MHz
Maximum insertion attenuation	α_{max}				
2400.0 ... 2500.0 MHz		—	2.5	2.8 [1]	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
2400.0 ... 2500.0 MHz		—	0.8	1.3	dB
Input VSWR					
2400.0 ... 2500.0 MHz		—	1.7	2.0	
Output VSWR					
2400.0 ... 2500.0 MHz		—	1.7	2.0	
Attenuation	α				
100.0 ... 960.0 MHz		33	36	—	dB
960.0 ... 1570.0 MHz		32	34	—	dB
1570.0 ... 1580.0 MHz		32	34	—	dB
1580.0 ... 1710.0 MHz		32	34	—	dB
1710.0 ... 1910.0 MHz		32	34	—	dB
1910.0 ... 1980.0 MHz		32	34	—	dB
2110.0 ... 2170.0 MHz		36	40	—	dB
2750.0 ... 3200.0 MHz		15	19	—	dB
3200.0 ... 4900.0 MHz		15	19	—	dB
4900.0 ... 6000.0 MHz		25	29	—	dB

[1] including a pcb loss of 0.2dB

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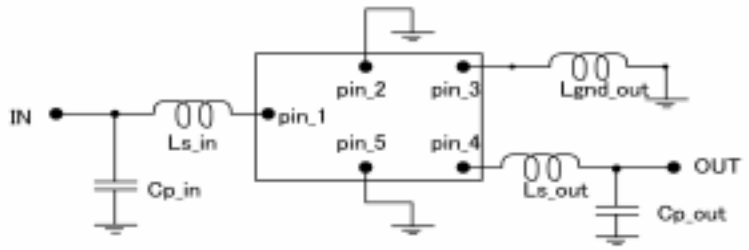
Maximum ratings

Operable temperature range	T	–30/+85	˚C	
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	3	V	
ESD voltage	V_{ESD}	50[1)]	V	machine model, 10 pulses
Input power at				
2400.0...2500.0MHz	P_{IN}	24	dBm	CW, +65˚C 2000hr
2400.0...2500.0MHz	P_{IN}	27	dBm	CW, +50˚C 2000hr

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

Matching circuit



Ls_in = 3.7nH
Cp_in = 1.6pF

Ls_out = 3.8nH
Cp_out = 1.1pF
Lg_out = 1.5nH

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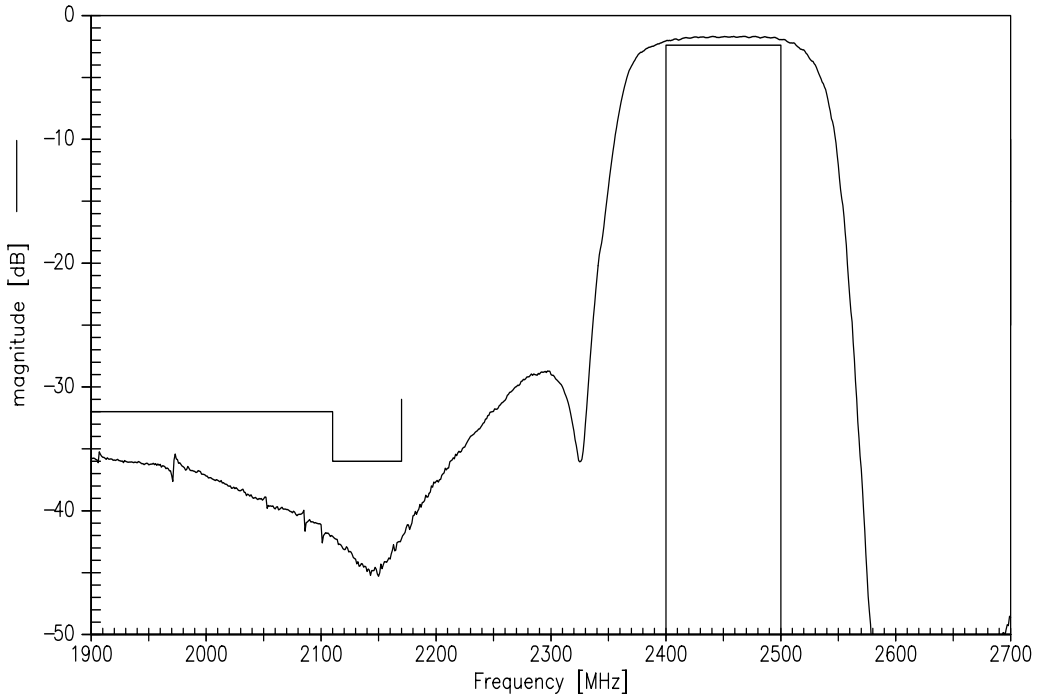
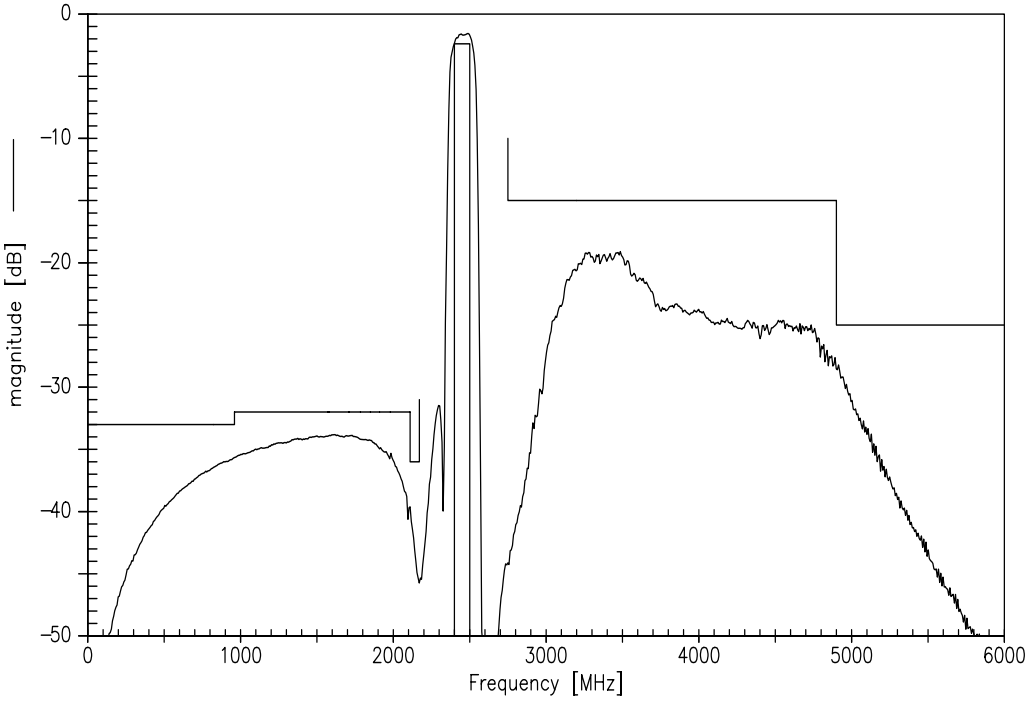
Transfer function



Transfer function (wideband)



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References

Type	B9430
Ordering code	B39252B9430M410
Marking and package	C61157-A8-A3
Packaging	F61074-V8212-Z000
Date codes	L_1126
S-parameters	B9430_NB.s3p B9430_WB.s3p See file header for pin/port assignment
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

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