



SAW Components

SAW IF filter

WiMAX

Series/type:	B5231
Ordering code:	B39251B5231H310
Date:	May 07, 2010
Version:	2.0

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B5231

SAW IF filter

252.0 MHz

Data sheet



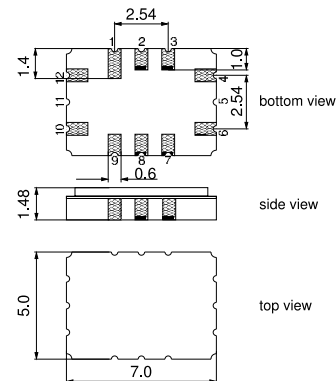
Application

- Low-loss IF filter for WiMAX base station
- Usable passband 32 MHz
- Unbalanced or balanced operation possible



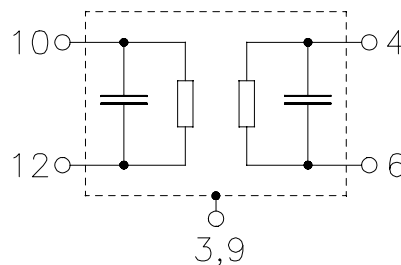
Features

- Package size 7.0 x 5.0 x 1.48 mm³
- Package code QCC12C
- RoHS compatible
- Approximate weight 0.25 g
- Ceramic package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- Filter surface passivated



Pin configuration

- 10 Input or balanced input
- 12 Input ground or balanced input
- 4 Output or balanced output
- 6 Output ground or balanced output
- 1, 2, 7, 8 To be grounded
- 3, 9 Case ground



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



Data sheet



Characteristics

Temperature range for specification:

T = -40 °C to +85 °C

Terminating source impedance:

Z_S = 50 Ω unbalanced and matching network

Terminating load impedance:

Z_L = 50 Ω unbalanced and matching network

		min.	typ. @ 25 °C	max.	
Nominal frequency	f _N	—	252.0	—	MHz
Minimum insertion attenuation (including matching network)	α _{min}	—	9.2	10.5	dB
Passband width					
	α _{rel} ≤ 1.0 dB	B _{1.0dB}	34.0	36.8	— MHz
	α _{rel} ≤ 3.0 dB	B _{3.0dB}	35.0	38.3	— MHz
Amplitude ripple (p-p)					
	f _N ± 16.0 MHz	Δα	—	0.3	0.9 dB
Phase ripple (p-p)					
	f _N ± 16.0 MHz	Δφ	—	4	10 °
Average error vector magnitude		EVM	—	1.8	— %
Group delay ripple (p-p)					
	f _N ± 16.0 MHz	Δτ	—	30	80 ns
Absolute group delay (mean)					
	f _N ± 16.0 MHz	$\bar{\tau}$	—	0.64	— μs
Relative attenuation (relative to α_{min})		α _{rel}			
	10.0 MHz ... 200.0 MHz		45	52	— dB
	200.0 MHz ... 226.0 MHz		40	46	— dB
	273.0 MHz ... 275.0 MHz		4	26	— dB
	275.0 MHz ... 275.8 MHz		25	50	— dB
	275.8 MHz ... 300.0 MHz		40	45	— dB
	300.0 MHz ... 600.0 MHz		45	55	— dB
	600.0 MHz ... 1.0 GHz		50	65	— dB
Temperature coefficient of frequency	TC _f	—	-87	—	ppm/K



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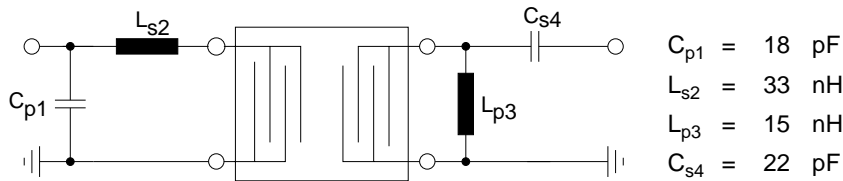
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Matching network to 50 Ω unbalanced



Element values depend upon board layout and properties.

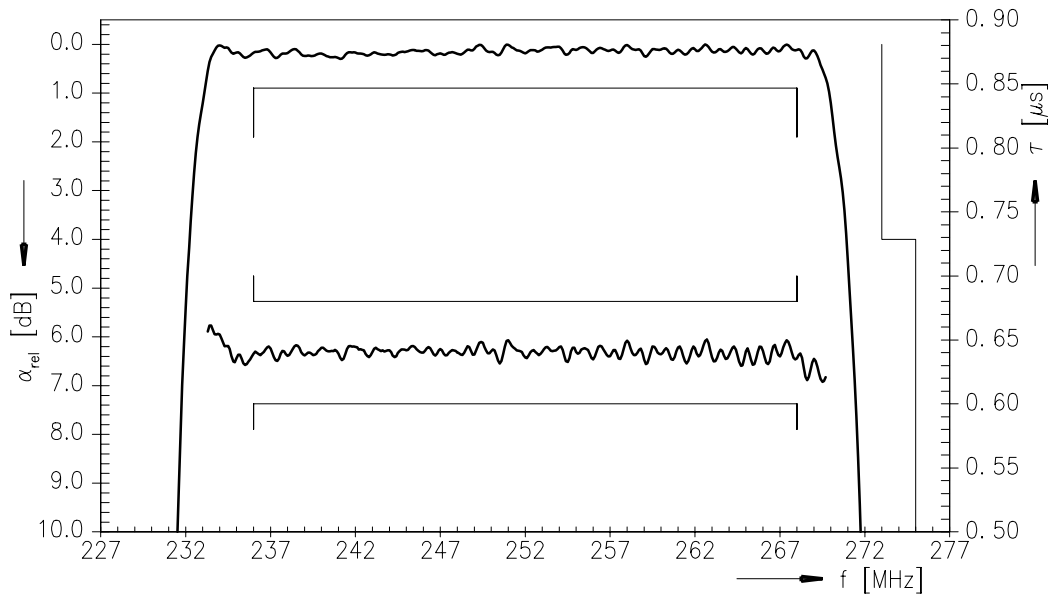
Maximum ratings

Operable temperature range	T	-40/+85	°C	
Storage temperature range	T _{stg}	-40/+85	°C	
DC voltage	V _{DC}	0	V	
Input power	P _{IN}	10	dBm	

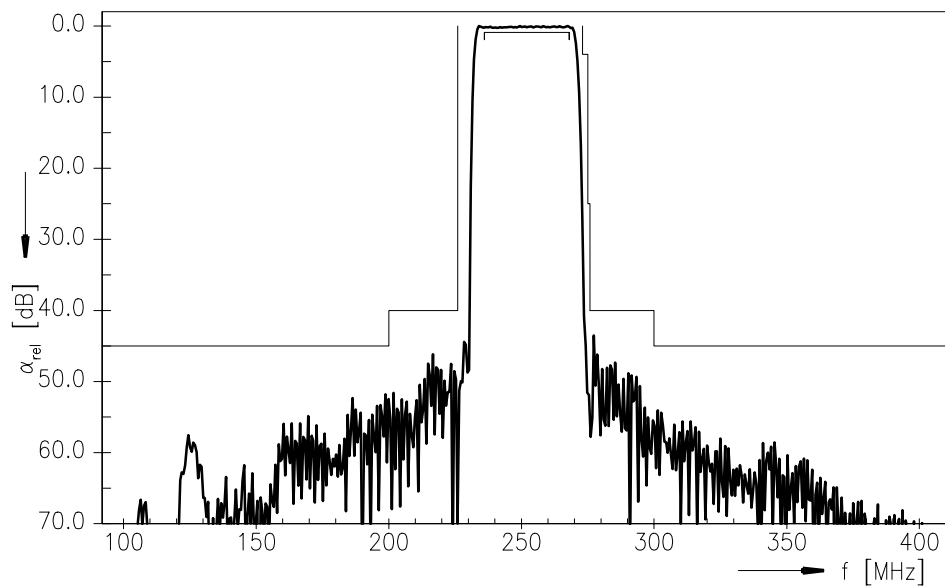
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Transfer function (S21, narrowband, normalized)



Transfer function (S21, wideband, normalized)



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SAW IF filter **252.0 MHz**

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References

Type	B5231
Ordering code	B39251B5231H310
Marking and package	C61157-A7-A95
Packaging	F61074-V8170-Z000
Date codes	L_1126
S-parameters	B5231_NB.s2p, B5231_WB.s2p B5231_NB_UN.s4p, B5231_WB_UN.s4p see file header for port/pin assignment table
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."

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