



SAW Components

SAW IF filter

WiMAX

Series/type:	B5230
Ordering code:	B39251B5230H310
Date:	February 04, 2010
Version:	2.0



SAW Components

B5230

SAW IF filter

245.0 MHz

Data sheet



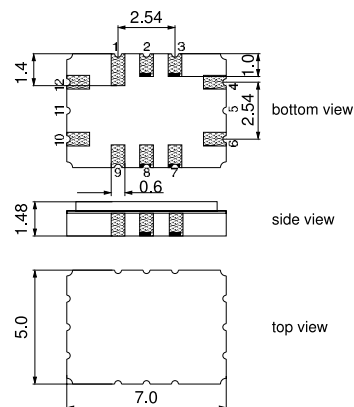
Application

- Low-loss IF filter for WiMAX base station
- Usable passband 30.5 MHz
- Unbalanced or balanced operation possible



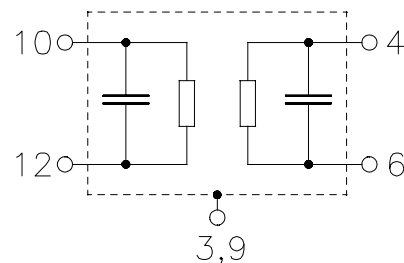
Features

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





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Characteristics

Temperature range for specification:

$T = -40\text{ °C to }+85\text{ °C}$

Terminating source impedance:

$Z_S = 50\ \Omega$ unbalanced and matching network

Terminating load impedance:

$Z_L = 50\ \Omega$ unbalanced and matching network

		min.	typ. @ 25 °C	max.	
Nominal frequency	f_N	—	245.0	—	MHz
Minimum insertion attenuation (including matching network)	$\alpha_{\min}$	—	9.2	10.5	dB
Passband width					
$\alpha_{\text{rel}} \leq 1.0\text{ dB}$	$B_{1.0\text{dB}}$	30.5	36.7	—	MHz
Amplitude ripple (p-p)	$\Delta\alpha$				
$f_N \pm 15.25\text{ MHz}$		—	0.2	1.0	dB
Group delay ripple (p-p)	$\Delta\tau$				
$f_N \pm 15.25\text{ MHz}$		—	20	60	ns
Absolute group delay (mean)	$\bar{\tau}$				
$f_N \pm 15.25\text{ MHz}$		—	0.65	1.0	μs
Phase ripple (p-p)	$\Delta\phi$				
$f_N \pm 15.25\text{ MHz}$		—	3.5	10	°
Relative attenuation (relative to $\alpha_{\min}$)	α_{rel}				
100.0 MHz ... 220.0 MHz		40	48	—	dB
270.0 MHz ... 275.0 MHz		30	44	—	dB
275.0 MHz ... 500.0 MHz		40	45	—	dB
Return loss					
input $f_N \pm 15.25\text{ MHz}$		10	15	—	dB
output $f_N \pm 15.25\text{ MHz}$		10	17	—	dB
Triple transit response suppression		35	46	—	dB
Temperature coefficient of frequency	TC_f	—	−87	—	ppm/K

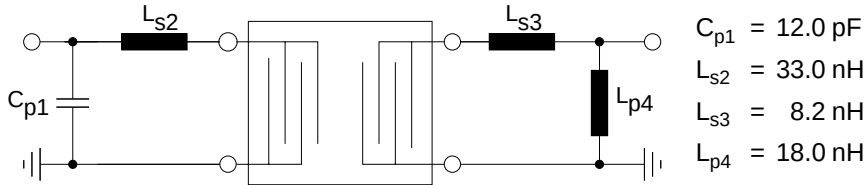


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Matching network to 50 Ω unbalanced input and output



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}	17	dBm	



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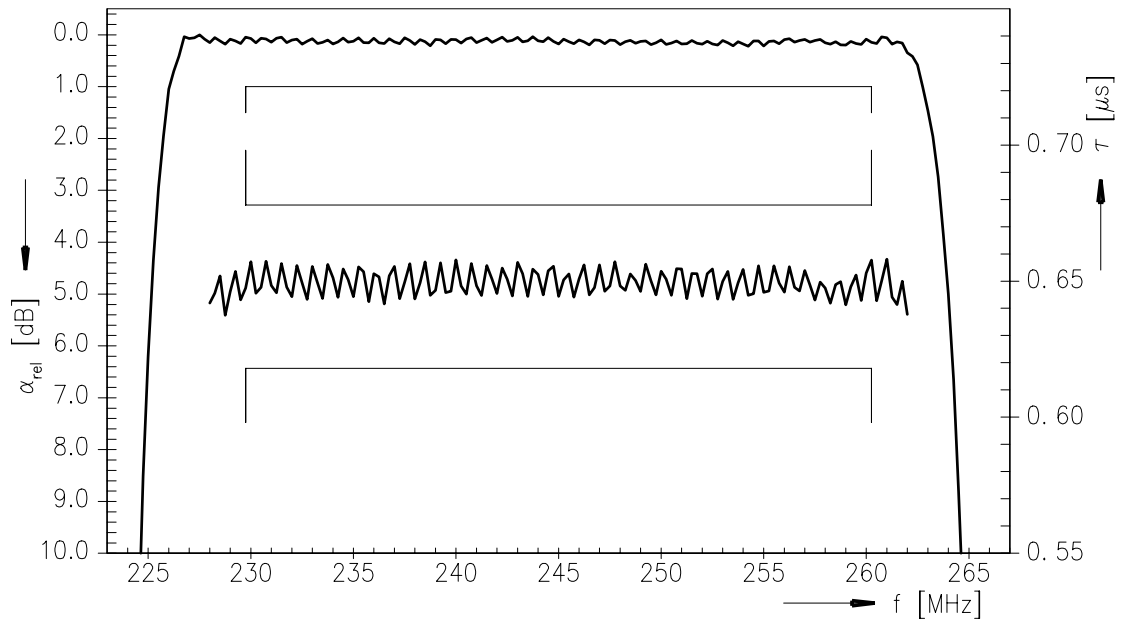
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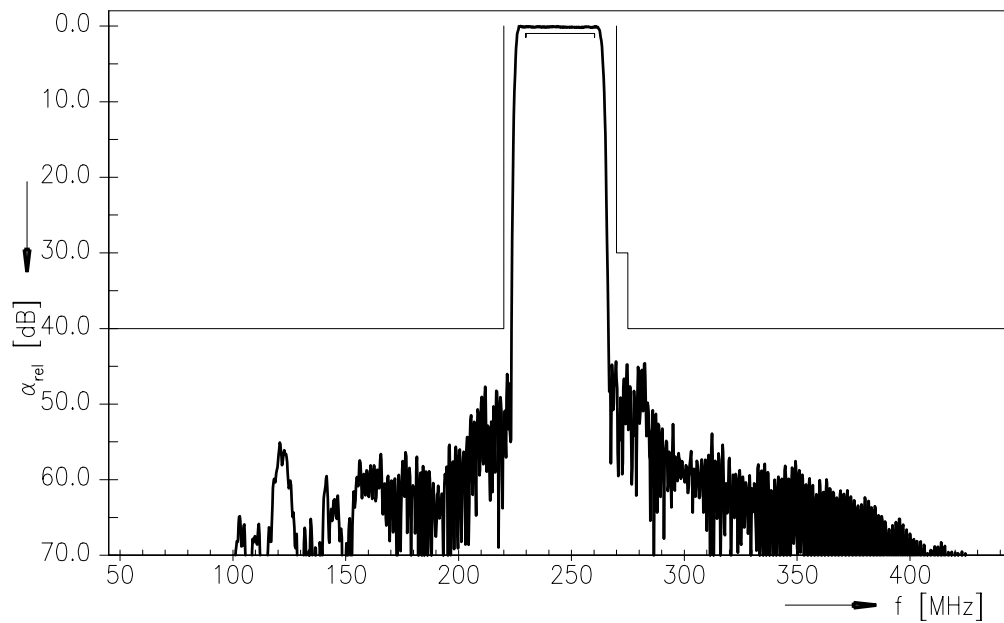
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Transfer function (S21, narrowband, normalized)



Transfer function (S21, wideband, normalized)



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

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**References**

Type	B5230
Ordering code	B39251B5230H310
Marking and package	C61157-A7-A95
Packaging	F61074-V8170-Z000
Date codes	L_1126
S-parameters	unmatched: B5230_NB_UN.s4p, B5230_WB_UN.s4p matched: B5230_NB.s2p, B5230_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."

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com.

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