SAW Components

SAW IF filter

Radiolink

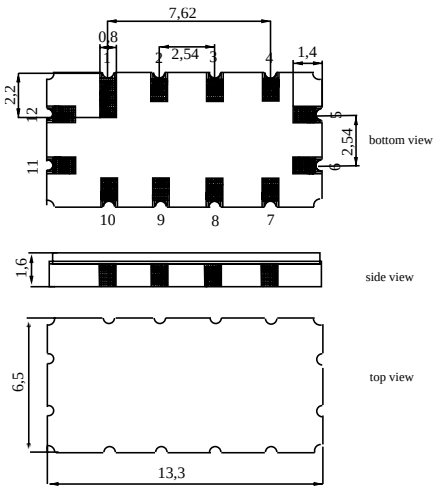
Series/type:	**B5210**
Ordering code:	**B39141B5210Z510**
Date:	Jul 20, 2009
Version:	2.0

Application

- Low-loss IF filter for Radiolink base station
- Usable passband 9.6 MHz

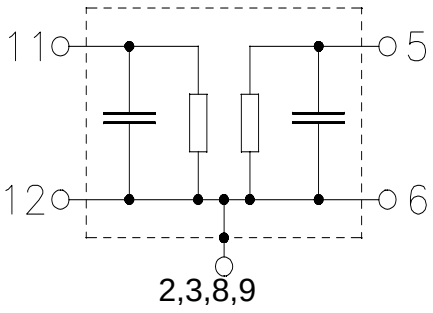
Features

- Package size 13.3 x 6.5 x 1.6 mm³
- Package code QCC12
- RoHS compatible
- Approx. weight 0.44 g
- Ceramic package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)
- Filter Surface Passivated



Pin configuration

■	11	Input
■	12	Input ground
■	5	Output
■	6	Output ground
■	1,4,7,10	To be grounded
■	2,3,8,9	Case ground



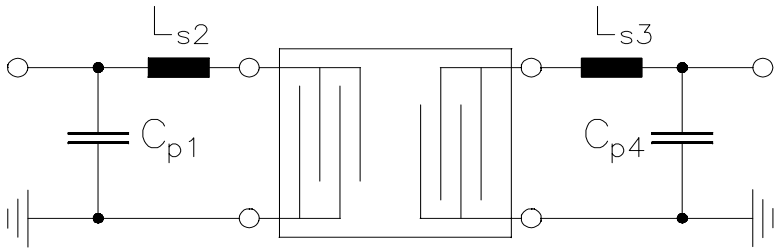
Characteristics

Operating temperature range: T = –5 to 80 °C
Terminating source impedance: Z_S = 50 Ω and matching network
Terminating load impedance: Z_L = 50 Ω and matching network

		min.	typ. @ 25 °C	max.	
Nominal frequency	f_N	—	140.0	—	MHz
Minimum insertion attenuation (including matching network)	α_{min}	—	8.6	10.0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
$f_N \pm 4.8$ MHz		—	0.5	1.0	dB
$f_N \pm 6.0$ MHz		—	0.75	3.0	dB
Passband width					
$\alpha_{rel} \leq$ 3.0 dB	$B_{3.0dB}$	12	15.8	—	MHz
$\alpha_{rel} \leq$ 30.0 dB	B_{30dB}	—	19.5	36	MHz
Group delay ripple (p-p)	$\Delta\tau$				
$f_N \pm 4.8$ MHz		—	65	160	ns
Relative attenuation (relative to α_{min})	α_{rel}				
f_N –130.0 MHz ... f_N – 20.0 MHz		40	60	—	dB
f_N + 20.0 MHz ... f_N + 370.0 MHz		40	60	—	dB
Temperature coefficient of frequency[1]	TC_f	—	–87	—	ppm/K

[1] Temperature dependance of f_c: $f_c(T_A) = f_c(T_0)\ (TC_f(T_A))$

Matching network to 50 Ω



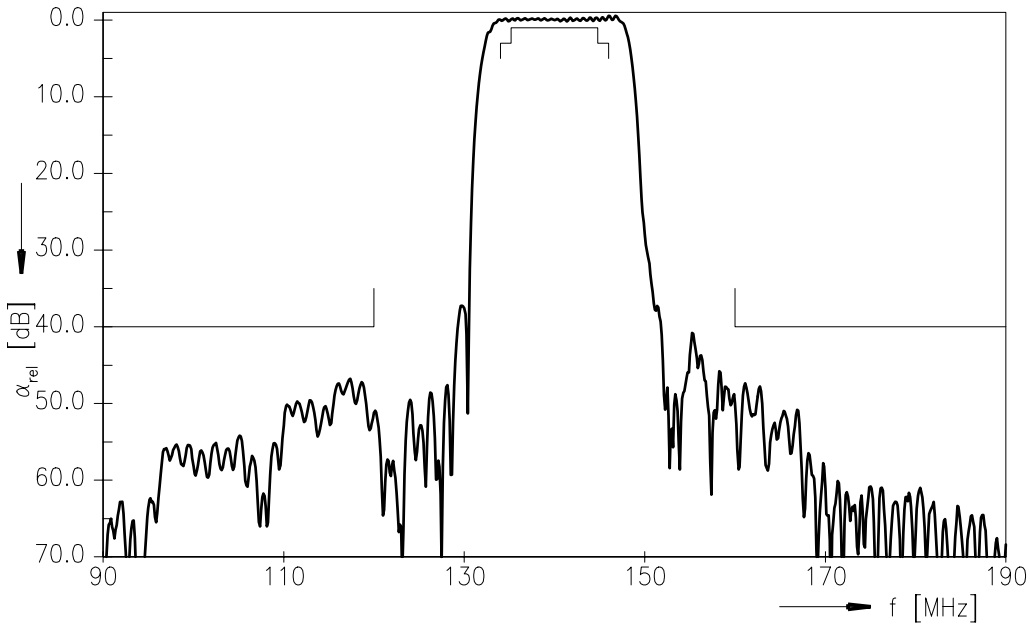
C_{p1} = 43 pF
L_{s2} = 33 nH
L_{s3} = 27 nH
C_{p4} = 68 pF

Element values depend upon PCB layout

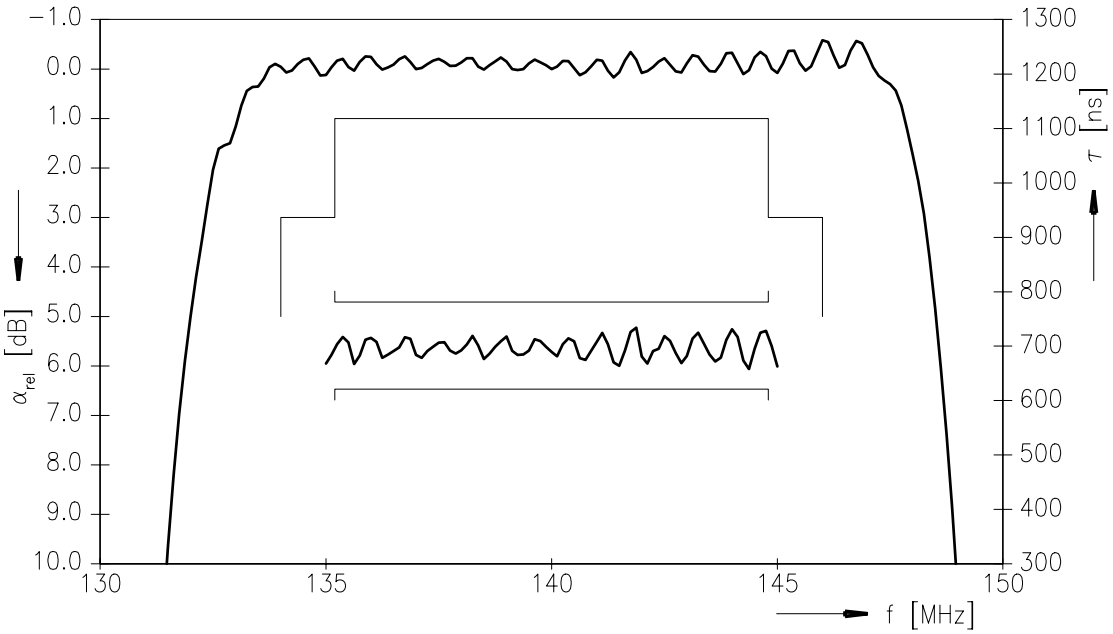
Maximum ratings

Operable temperature range	T	–5/+80	°C	
Storage temperature range	T_{stg}	–40/+85	°C	
DC voltage	V_{DC}	0	V	
Input power	P_{IN}	10	dBm	

Transfer function (S21 wideband)



Transfer function (S21 narrowband)



References

Type	B5210
Ordering code	B39141B5210Z510
Marking and package	C61157-A7-A55
Packaging	F61074-V8163-Z000
Date codes	L_1126
S-parameters	B5210_NB.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."

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