SAW Components

SAW IF filter

BWA

Series/type:	**B5093**
Ordering code:	**B39141B5093Z510**
Date:	Aug 17, 2009
Version:	2.1

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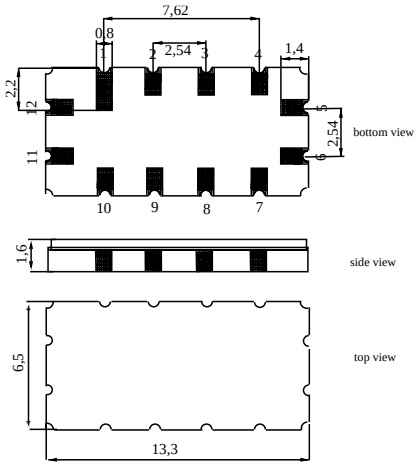
Application

- Low-loss IF filter for Broadband Wireless Access



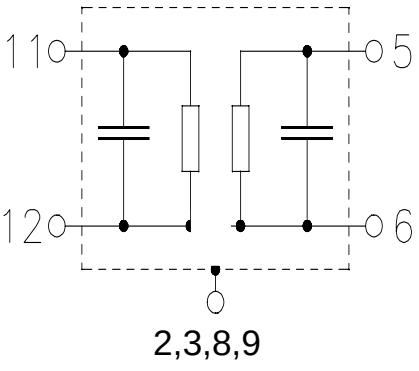
Features

- Package size 13.3 x 6.5 x 1.6 mm³
- Package code QCC12
- RoHS compatible
- Approx. weight 0.4 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 return
5	Output
6	Output return
2, 3, 8, 9	Case ground
1, 4, 7, 10	To be grounded

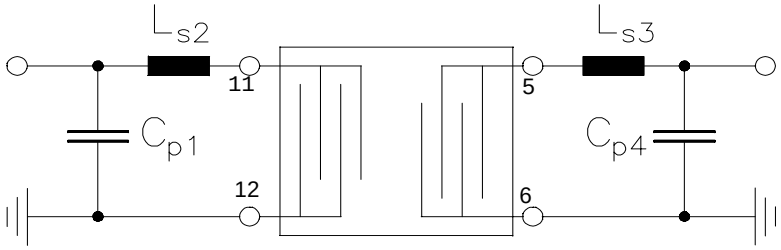


Characteristics

Operating temperature range: T = –35 to 75 ˚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}	—	6.0	7.5	dB
Passband bandwidth					
α_{rel} <= 1 dB	B_{1dB}	7.5	8.0	—	MHz
α_{rel} <= 3 dB	B_{3dB}	8.4	8.8	—	MHz
α_{rel} <= 35 dB	B_{35dB}	—	12.6	13.0	MHz
Amplitude ripple (p-p)	$\Delta\alpha$				
$f_N \pm 2.6$ MHz		—	0.35	1.0	dB
Group delay ripple (p-p)	$\Delta\tau$				
$f_N \pm 2.6$ MHz		—	87	150	ns
Absolute group delay at f_N					
	τ	—	1.07	—	µs
Relative attenuation (relative to α_{min})	α_{rel}				
10.00 MHz ... 132.00 MHz		40	55	—	dB
148.00 MHz ... 153.00 MHz		35	40	—	dB
153.00 MHz ... 250.00 MHz		40	45	—	dB
Triple Transit Suppression		30	37	—	dB
Temperature coefficient of frequency	TC_f	—	-86	—	ppm/K

Matching network to 50 Ω



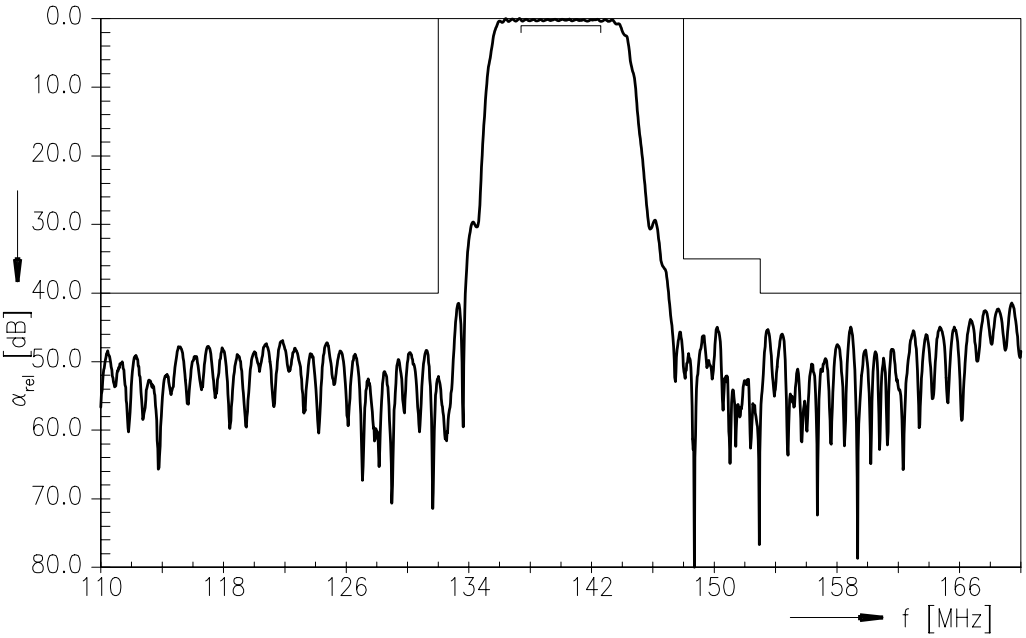
C_{p1}= 12 pF
L_{s2} = 68 nH
L_{s3} = 68 nH
C_{p4}= 22 pF

Element values depend upon board layout

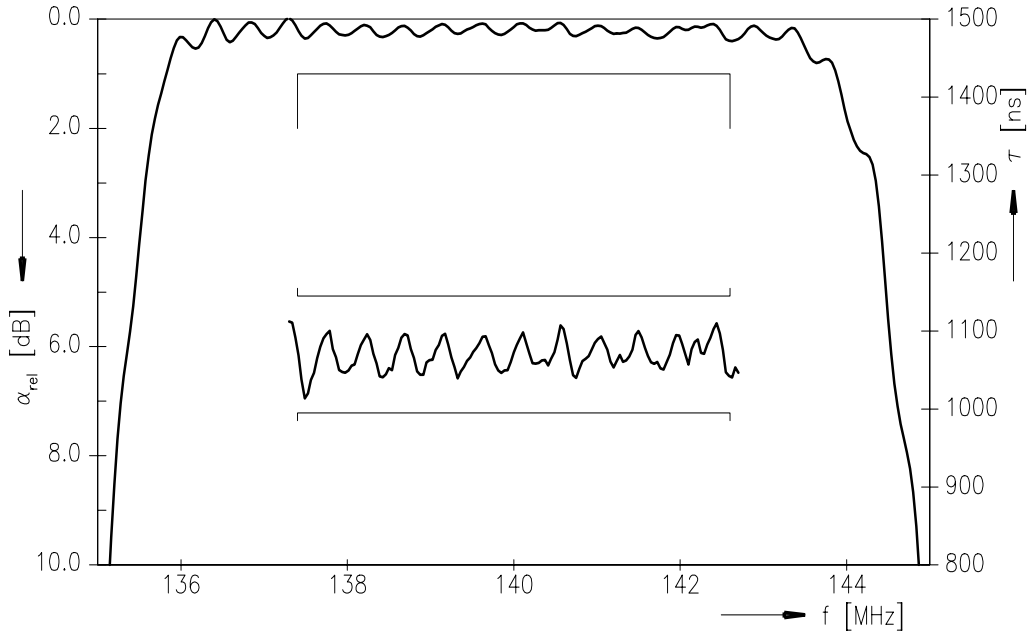
Maximum ratings

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	

Transfer function (wideband measurement)



Transfer function (Passband)



References

Type	B5093
Ordering code	B39141B5093Z510
Marking and package	C61157-A7-A55
Packaging	F61074-V8163-Z000
Date codes	L_1126
S-parameters	
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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