SAW Components

SAW IF filter

BWA

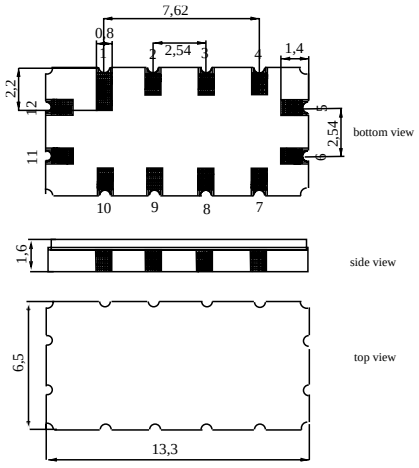
Series/type:	**B5092**
Ordering code:	**B39141B5092Z510**
Date:	Mar 16, 2011
Version:	2.2

Application

- Low-loss IF filter

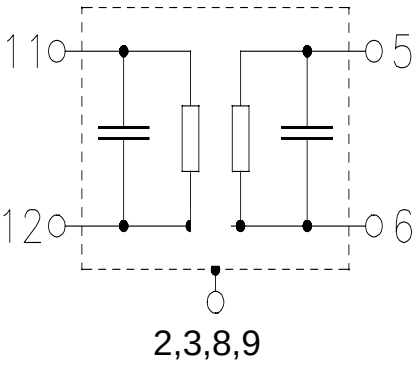
Features

- Package size 13.3x6.5x1.6 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

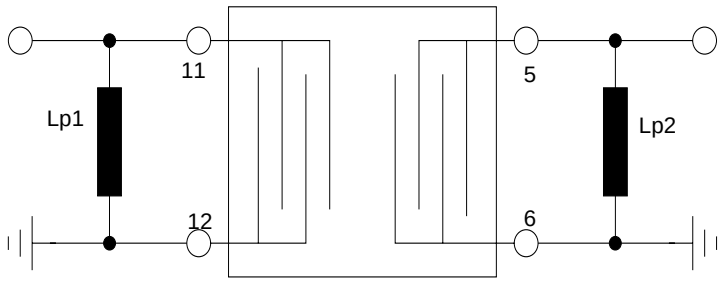


Characteristics

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}	—	11.0	12.0	dB
Passband bandwidth					
α_{rel} <= 1 dB	B_{1dB}	—	1.84	—	MHz
α_{rel} <= 3 dB	B_{3dB}	1.9	2.07	2.2	MHz
α_{rel} <= 40 dB	B_{40dB}	—	3.36	3.9	MHz
Amplitude ripple (p-p)	$\Delta\alpha$				
$f_N \pm 0.5$ MHz		—	0.7	1	dB
Group delay ripple (p-p)	$\Delta\tau$				
$f_N \pm 0.5$ MHz		—	140	200	ns
Absolute group delay at f_N					
	τ	—	1.5	—	µs
Relative attenuation (relative to α_{min})	α_{rel}				
10.00 MHz ... 137.50 MHz		40	45	—	dB
142.50 MHz ... 250 MHz		40	45	—	dB
Triple Transit Suppression		35	45	—	dB
Temperature coefficient of frequency	TC_f	—	-18	—	ppm/K

Matching network to 50 Ω



L_{p1} = 82.0 nH
L_{p2} = 100.0 nH

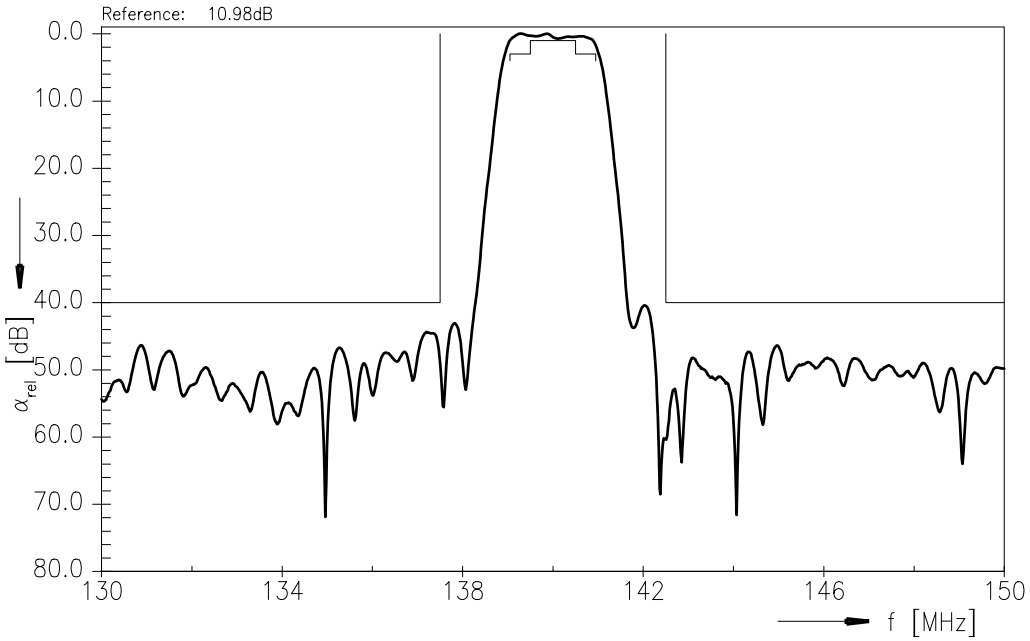
Element values depend upon board layout

Maximum ratings

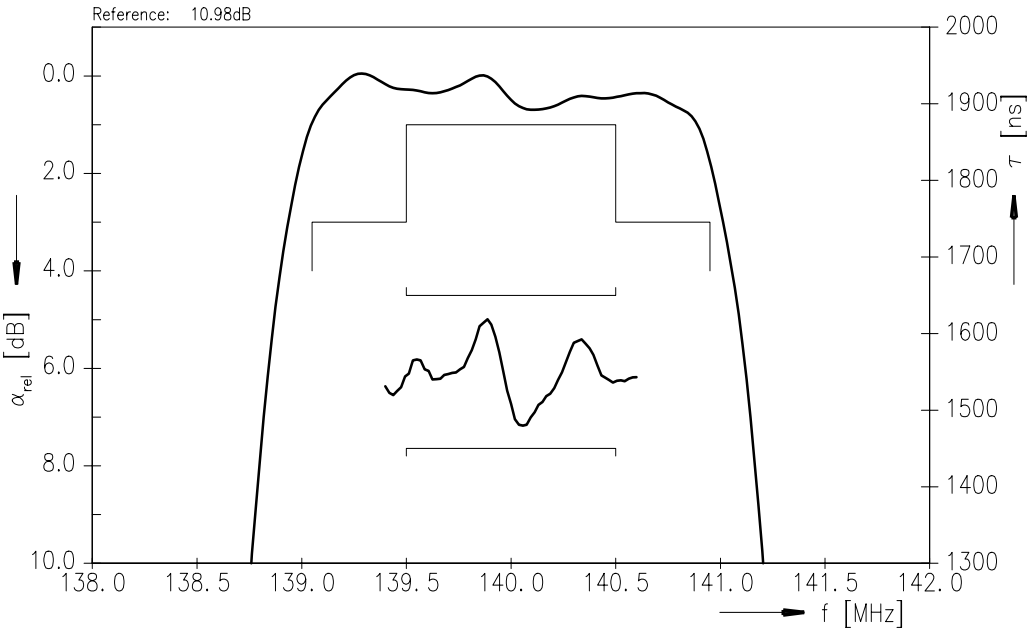
Operable temperature range	T	–40/+85	°C	
Storage temperature range	T_{stg}	–40/+85	°C	
DC voltage	V_{DC}	0	V	
ESD voltage	V_{ESD}	100[1)]	V	machine model, 1 pulse
Input power	P_{IN}	10	dBm	

1) acc. to J-STD22A-D115A(machine model, 1 pulse +/-).

Transfer function (wideband measurement)



Transfer function (Passband)



References

Type	B5092
Ordering code	B39141B5092Z510
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."
Matching coils	See Inductor pdf-catalog http://www.tdk.co.jp/tefe02/coil.htm#aname1 and Data Library for circuit simulation http://www.tdk.co.jp/etvcl/index.htm

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