SAW Components

SAW IF filter

Clean up filter

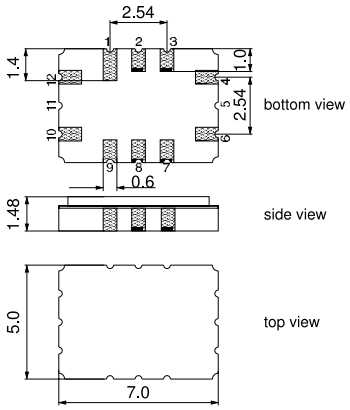
Series/type:	**B5245**
Ordering code:	**B39121B5245H310**
Date:	Jul 27, 2011
Version:	2.0

Application

- Low-loss IF filter
- Clean up filter for LTU
- Usable passband 0.1 MHz
- Balanced operation

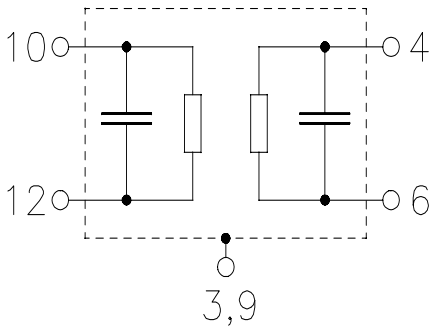
Features

- Package size 7.0 x 5.0 x 1.48 mm³
- Package code QCC12C
- RoHS compatible
- Approx. weight 0.25 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
- Moisture Sensitivity Level 1



Pin configuration

- 10, 12 Input
- 4, 6 Output
- 3, 9 Case Ground
- 1, 2, 7, 8 To be grounded



Data Sheet SMD

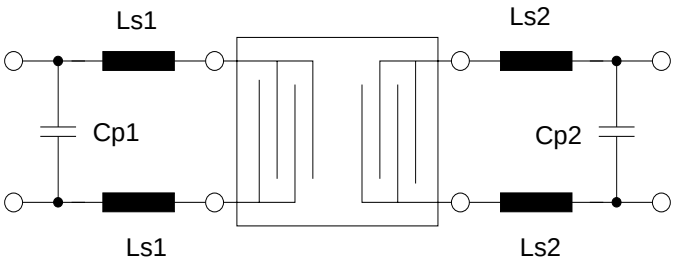
Characteristics

Operating temperature range: T = –40 to 85 ˚C
Terminating source impedance: Z_S = 100 Ω and matching network
Terminating load impedance: Z_L = 400 Ω and matching network

		min.	typ. @ 25 ˚C	max.	
Nominal frequency	f_N	—	122.88	—	MHz
Insertion attenuation at f_N (T= 25˚C)	α_n	5.5	6.2	7.5	dB
Variation of insertion attenuation in [-40 ˚C , 85˚C]		—	—	± 0.9	dB
Passband width $\alpha_{rel} \leq$ 1.0 dB	$B_{1.0dB}$	0.1	0.49	—	MHz
Amplitude ripple (p-p) $f_N \pm 0.05$ MHz	$\Delta\alpha$	—	0.2	0.5	dB
Group Delay ripple (p-p) $f_N \pm 0.05$ MHz	$\Delta\tau$	—	30	100	ns
Average Group Delay $f_N \pm 0.05$ MHz	τ_{mean}	—	1.04	1.08	µs
Relative attenuation (relative to α_{min})	α_{rel}				
f_N - 100.00 MHz ... f_N - 10.000 MHz		40	48	—	dB
f_N - 10.000 MHz ... f_N - 3.0000 MHz		35	40	—	dB
f_N - 1.000 MHz ... f_N - 0.8000 MHz		10	15	—	dB
f_N + 0.8000 MHz ... f_N + 1.0000 MHz		10	15	—	dB
f_N + 3.0000 MHz ... f_N + 10.000 MHz		35	41	—	dB
f_N + 10.000 MHz ... f_N + 100.00 MHz		40	50	—	dB
Temperature coefficient of frequency[1)]	TC_f	—	-0.036	—	ppm/K²

1) Temperature dependance of f_c: $f_c(T_A) = f_c(T_0)(1 + TC_f(T_A - T_0)^2)$

Matching network to 100 Ω Input balanced - 400 Ω Output balanced



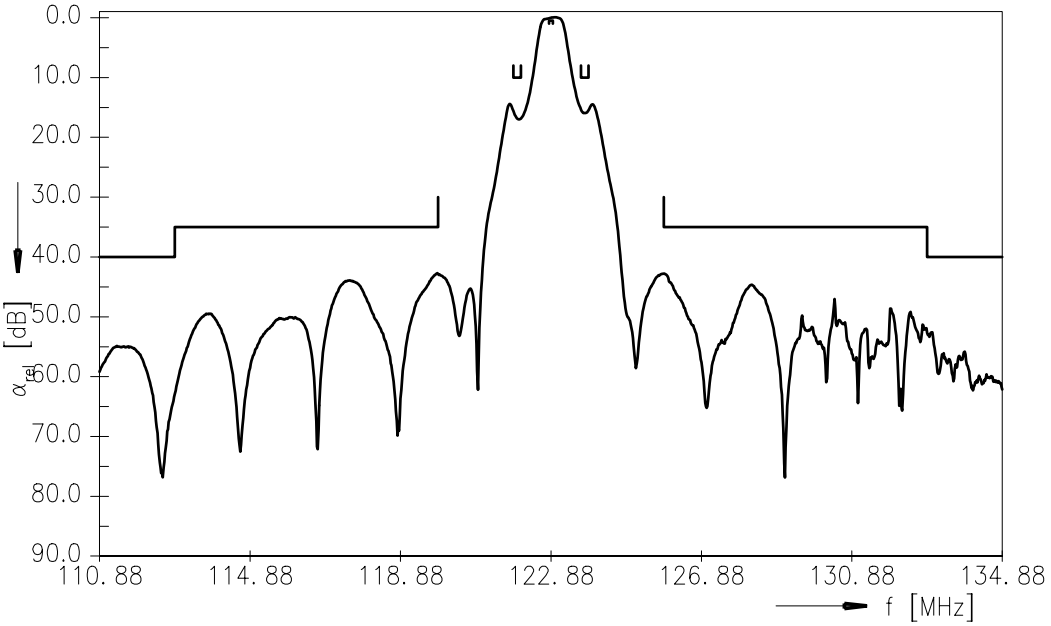
C_{p1} = 27 pF
L_{s1} = 91 nH
C_{p2} = 15 pF
L_{s2} = 110 nH

(matching element values depend on PCB layout)

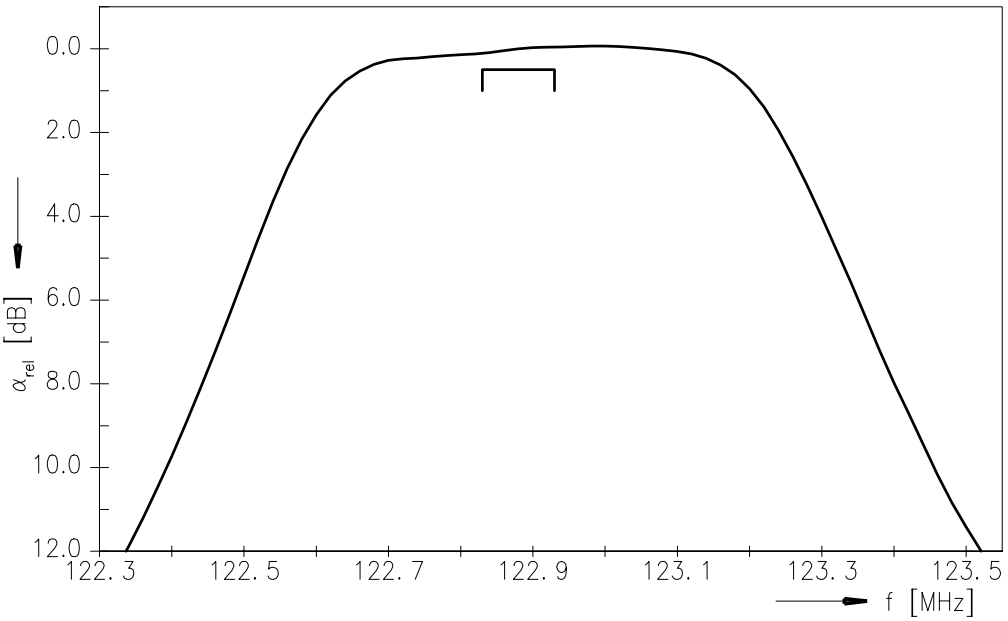
Maximum ratings

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 (Wide band)



Transfer function (Passband)



References

Type	B5245
Ordering code	B39121B5245H310
Marking and package	C61157-A7-A95
Packaging	F61074-V8170-Z000
Date codes	L_1126
S-parameters	B5245_NB.s2p; B5245_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."
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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