SAW Components

SAW IF filter

WiMAX

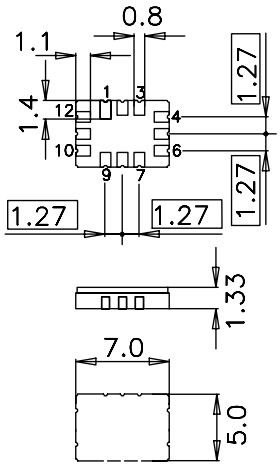
Series/type:	**B5034**
Ordering code:	**B39461-B5034-H810**
Date:	Jul 21, 2008
Version:	2.1

Application

- Low-loss IF filter for WiMAX
- Usable passband 4.8 MHz
- Low insertion attenuation

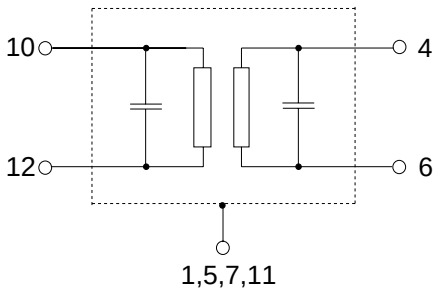
Features

- Package size 7.0 x 5.0 x 1.33 mm³
- Package code QCC12E
- 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



Pin configuration

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



Characteristics

Temperature range for specification: T = –40 to 85 ˚C
Terminating source impedance: Z_S = 50 Ω single ended and matching network
Terminating load impedance: Z_L = 50 Ω single ended and matching network

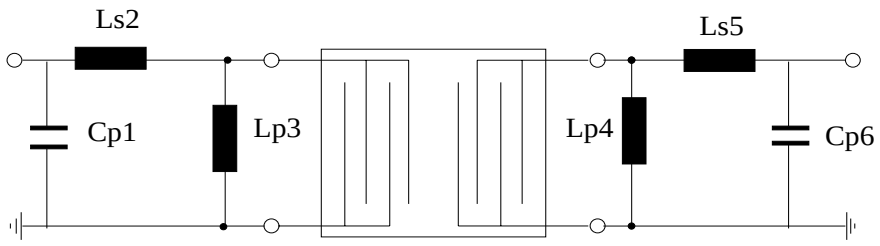
		min.	typ. @ 25 ˚C	max.	
Nominal frequency	f_N	—	456.0	—	MHz
Minimum insertion attenuation (including matching network)	α_{min}	—	6.8	9.0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
$f_N \pm 2.1$ MHz		—	0.4	1.3	dB
$f_N \pm 2.4$ MHz		—	0.5	2.5	dB
Group delay ripple (p-p)	$\Delta\tau$				
$f_N \pm 2.4$ MHz		—	75	250	ns
Impulse response attenuation (Time/Height values are relative to the main time response lobe)					
> 3 µs		30	55	—	dB
Relative attenuation (relative to α_{min})	α_{rel}				
365 MHz ... 371 MHz		40	48	—	dB
412 MHz		45	57	—	dB
412 MHz ... 450.0 MHz		40	48	—	dB
$f_N \pm 5.3$ MHz ... $f_N \pm 6.0$ MHz		35	45	—	dB
462.0 MHz ... 600 MHz[1)]		40	50	—	dB
Temperature coefficient of frequency	TC_f	—	–18	—	ppm/K

1) A narrow response around 550 MHz of up to 37 dB is possible

Maximum ratings

Operable temperature range	T	–40/+85	˚C	
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	3	V	between input, output and ground
DC voltage	V_{DC}	0	V	between 10, 12 and between 4,6

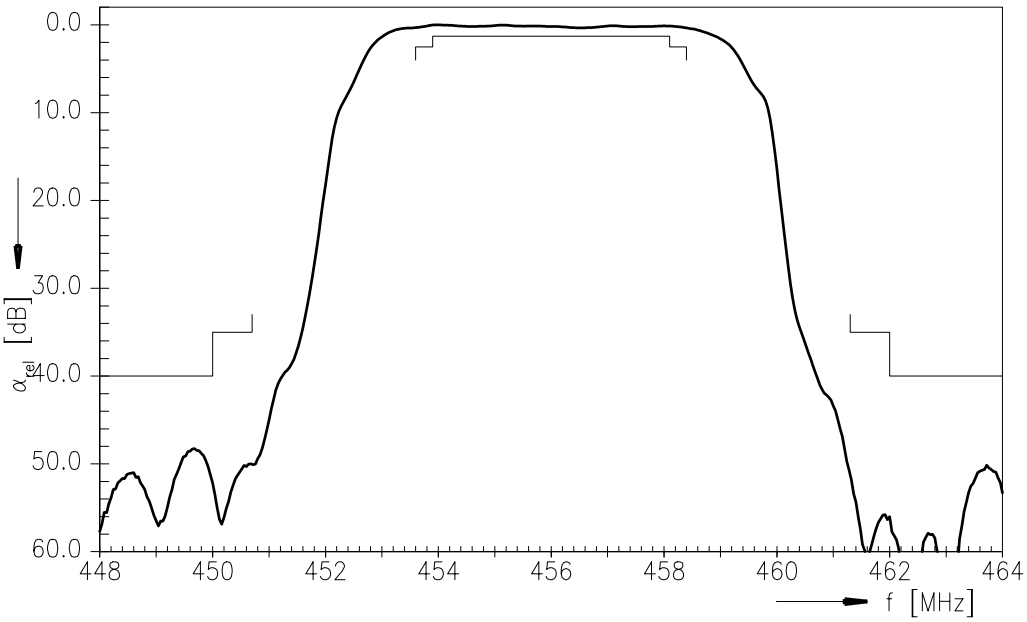
Matching network to 50 Ω



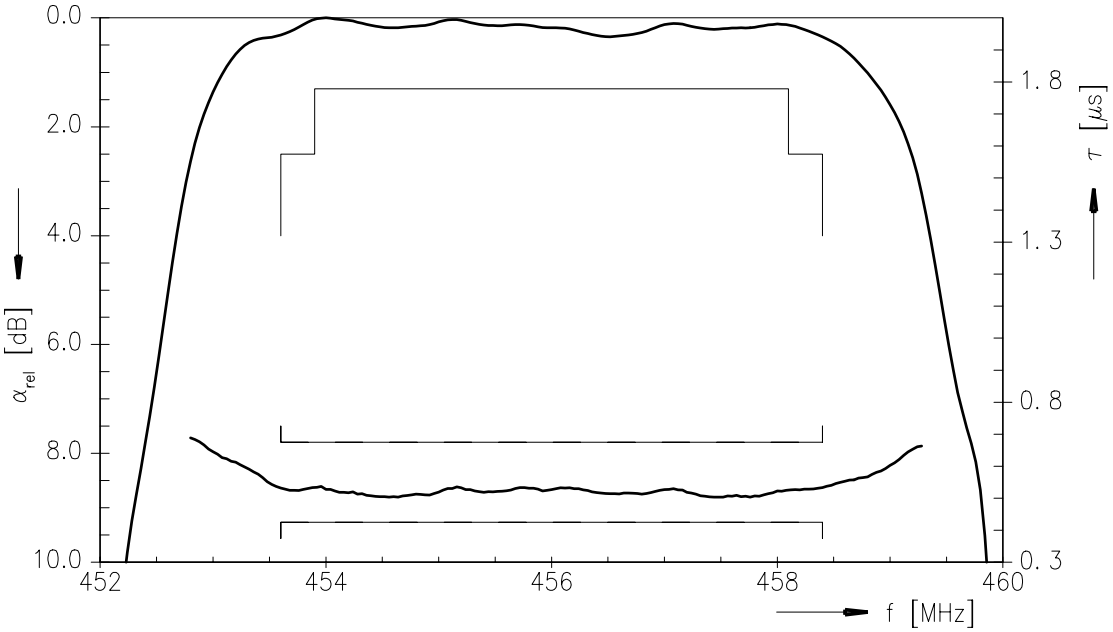
C_{p1} = 12 pF
L_{s2} = 8.2 nH
L_{p3} = not used
L_{p4} = 12 nH
L_{s5} = 15 nH
C_{p6} = not used

Element values depend upon PCB layout.

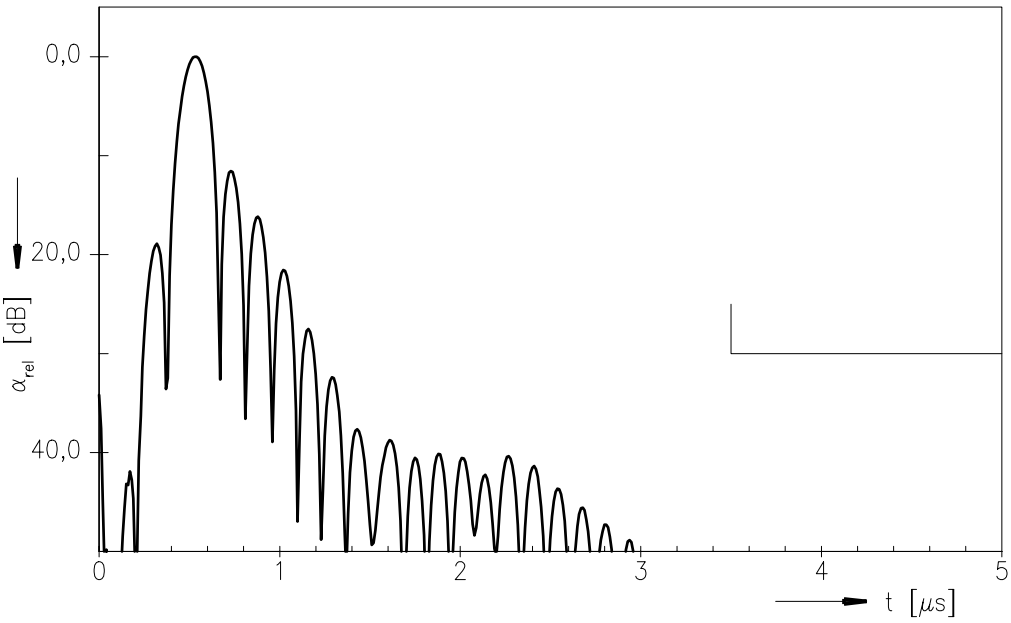
Normalized transfer function



Normalized transfer function (pass band)



Transfer function (Impulse response)



References

Type	B5034
Ordering code	B39461-B5034-H810
Marking and package	C61157-A7-A103
Packaging	F61074-V8170-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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Published by EPCOS AG
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P.O. Box 80 17 09, 81617 Munich, GERMANY

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