SAW Components

SAW IF filter

TD-SCDMA

Series/type:	**B5207**
Ordering code:	**B39141B5207H310**
Date:	March 05, 2009
Version:	2.0

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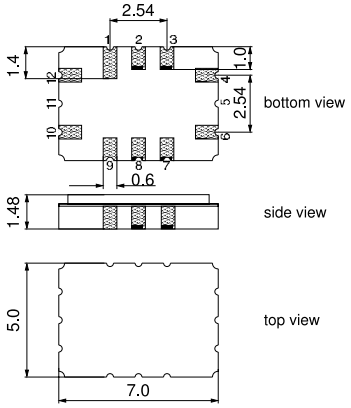
Application

- Low-loss IF filter for TD-SCDMA base station
- Usable passband 20.0 MHz
- Balanced or unbalanced operation



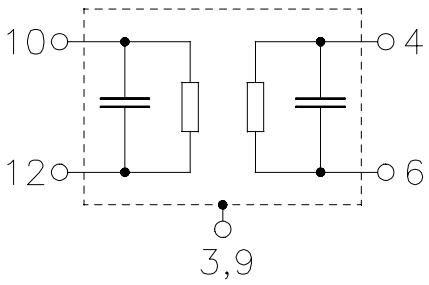
Features

- Package size 7.0 x 5.0 x 1.48 mm^3
- Package code QCC12C
- RoHS compatible
- Approximate 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
■	1, 2, 7, 8	To be grounded
■	3, 9	Case ground

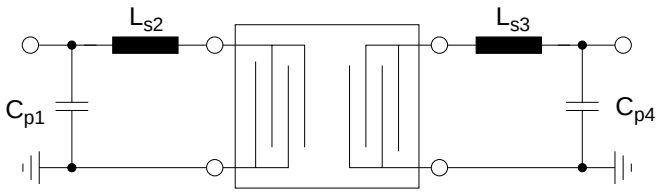


Characteristics

Temperature range for specification: T = –40 ˚C to +85 ˚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	—	138.24	—	MHz
Minimum insertion attenuation (including matching network)	α_{min}	—	8.5	10.0	dB
Passband width $\alpha_{rel} \leq$ 1.0 dB	$B_{1.0dB}$	20	23.1	—	MHz
Amplitude ripple (p-p)	$\Delta\alpha$				
$f_N \pm$ 10.0 MHz		—	0.4	1.0	dB
Group delay ripple (p-p)	$\Delta\tau$				
$f_N \pm$ 10.0 MHz		—	40	60	ns
Absolute group delay (mean)	$\bar{\tau}$				
$f_N \pm$ 10.0 MHz		—	665	—	ns
Relative attenuation (relative to α_{min})	α_{rel}				
10.00 MHz ... 90.00 MHz		55	62	—	dB
90.00 MHz ... 108.24 MHz		50	57	—	dB
108.24 MHz ... 117.52 MHz		50	57	—	dB
122.88 MHz		45	52	—	dB
220.40 MHz ... 271.12 MHz		58	75	—	dB
271.12 MHz ... 1000.00 MHz		40	75	—	dB
1dB compression point		12	—	—	dBm
Input IP3		35	—	—	dBm
Temperature coefficient of frequency	TC_f	—	–87	—	ppm/K

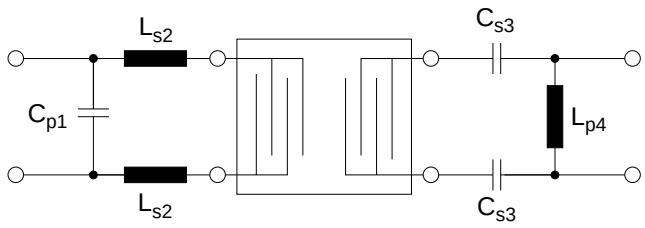
Matching network to 50 Ω



C_{p1} = 27 || 2.2 pF
L_{s2} = 82 nH
L_{s3} = 33 nH
C_{p4} = 47 || 2.2 pF

Element values depend upon board layout and properties.

Matching network to 200 Ω balanced input and 200 Ω balanced output



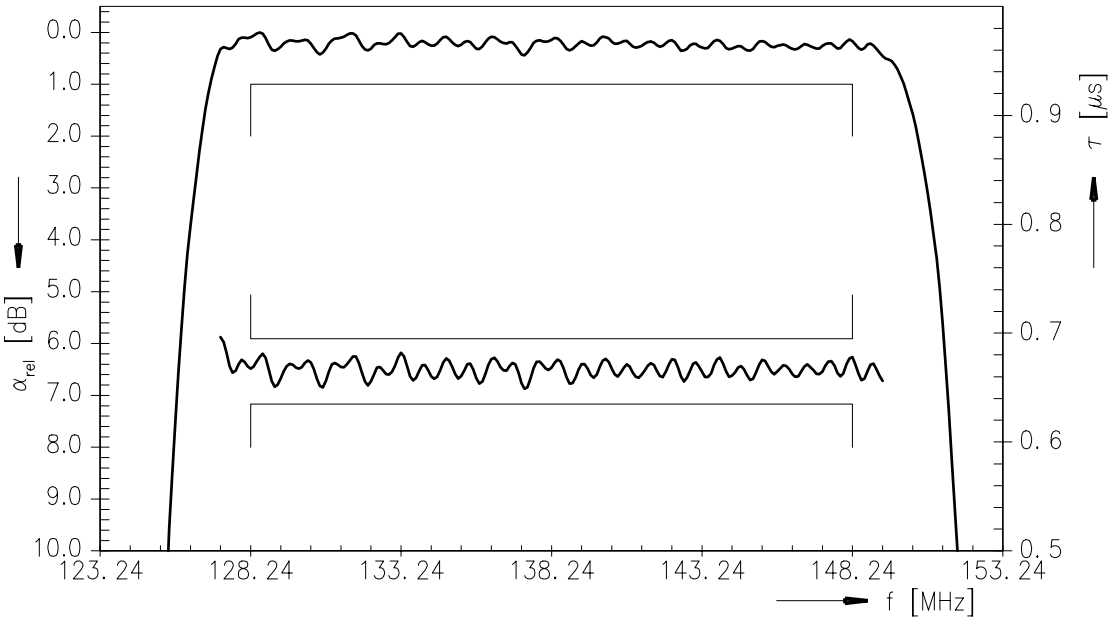
C_{p1} = 18 pF
L_{s2} = 62 nH
C_{s3} = 100 pF
L_{p4} = 47 nH

Element values depend upon board layout and properties.

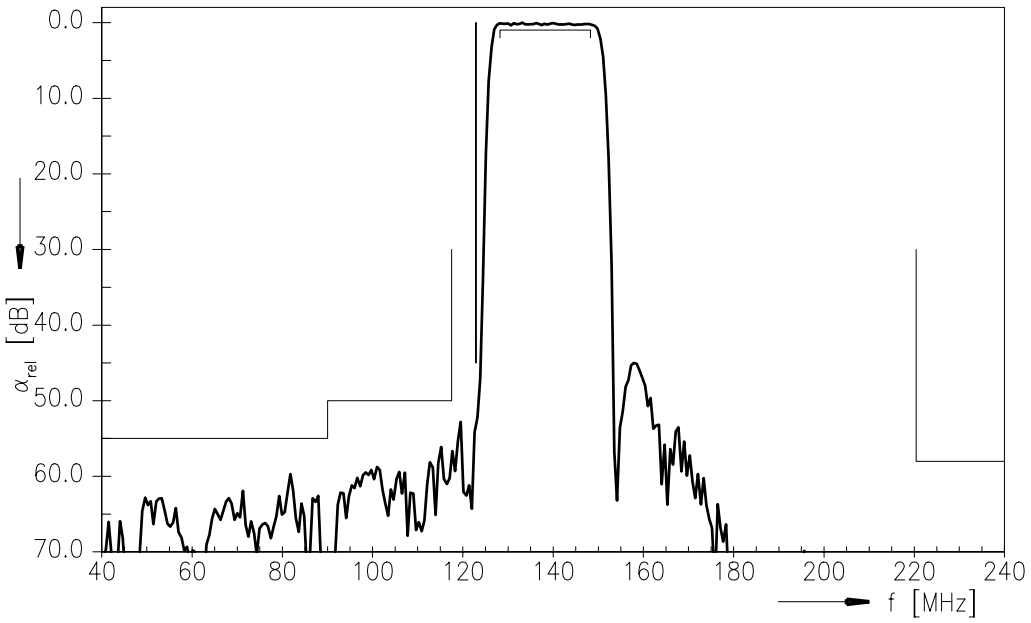
Maximum ratings

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 (S21, Narrowband)



Transfer function (S21, Wideband)



References

Type	B5207
Ordering code	B39141B5207H310
Marking and package	C61157-A7-A95
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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