SAW Components

SAW IF filter

TD-SCDMA

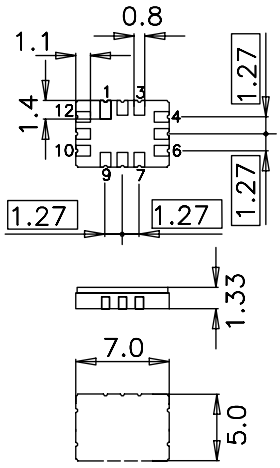
Series/type:	**B5206**
Ordering code:	**B39151B5206H810**
Date:	October 28, 2009
Version:	2.1

Application

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

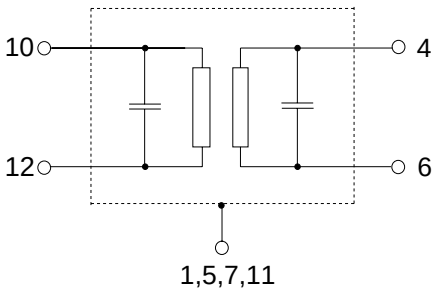
Features

- Package size 7.0 x 5.0 x 1.33 mm³
- Package code QCC12E
- 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
■	2, 3, 8, 9	To be grounded
■	1, 5, 7, 11	Case ground

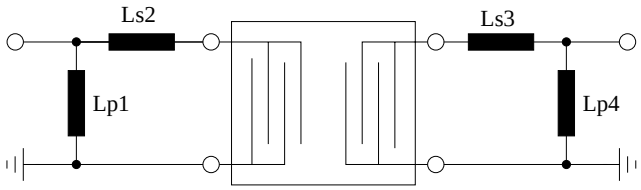


Characteristics

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	—	153.6	—	MHz
Minimum insertion attenuation (including matching network)	α_{min}	—	7.8	10	dB
Passband width					
$\alpha_{rel} \leq$ 1.0 dB	$B_{1.0dB}$	20	23.9	—	MHz
Amplitude ripple (p-p)	$\Delta\alpha$				
$f_N \pm$ 10 MHz		—	0.6	1.0	dB
Phase ripple (p-p)	$\Delta\varphi$				
$f_N \pm$ 10 MHz		—	2.5	5.0	°
Absolute group delay	τ				
$f_N \pm$ 10 MHz		—	0.51	1	µs
VSWR					
Input $f_N \pm$ 10 MHz		—	1.5	2:1	
Output $f_N \pm$ 10 MHz		—	1.2	2:1	
Relative attenuation (relative to α_{min})	α_{rel}				
10 MHz ... 80 MHz		40	75	—	dB
80 MHz ... 105 MHz		55	65	—	dB
200 MHz ... 230 MHz		40	57	—	dB
230 MHz ... 280 MHz		45	57	—	dB
230 MHz ... 1 GHz		40	47	—	dB
Temperature coefficient of frequency	TC_f	—	–87	—	ppm/K

Matching network to 50 Ω



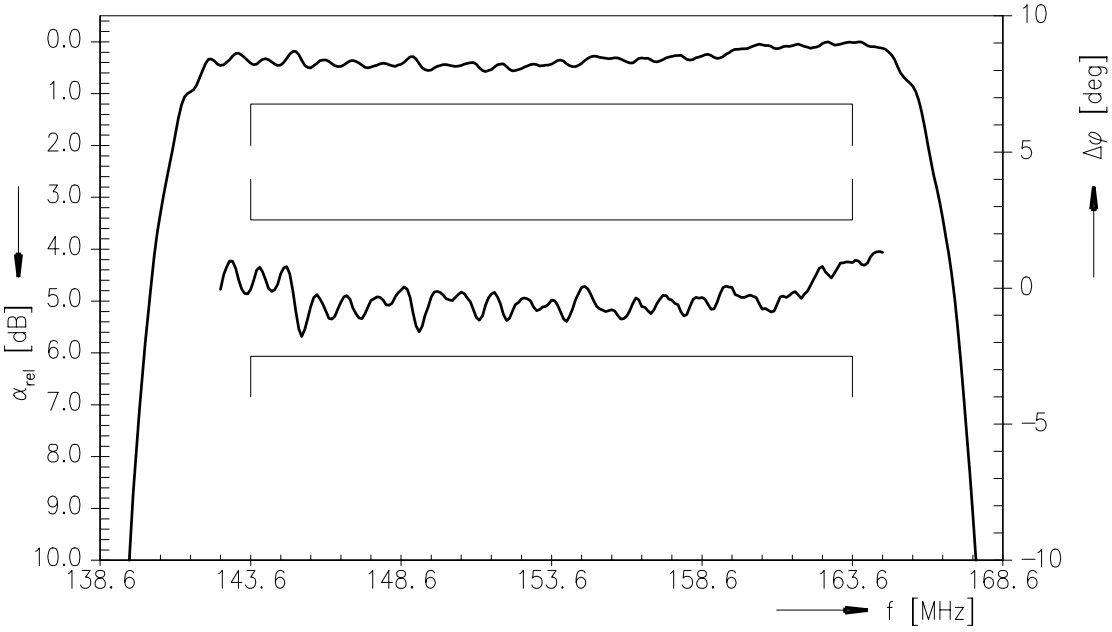
L_{p1} = 33 nH
L_{s2} = 39 nH
L_{s3} = 27 nH
L_{p4} = 33 nH

Element values depend upon board layout and properties.

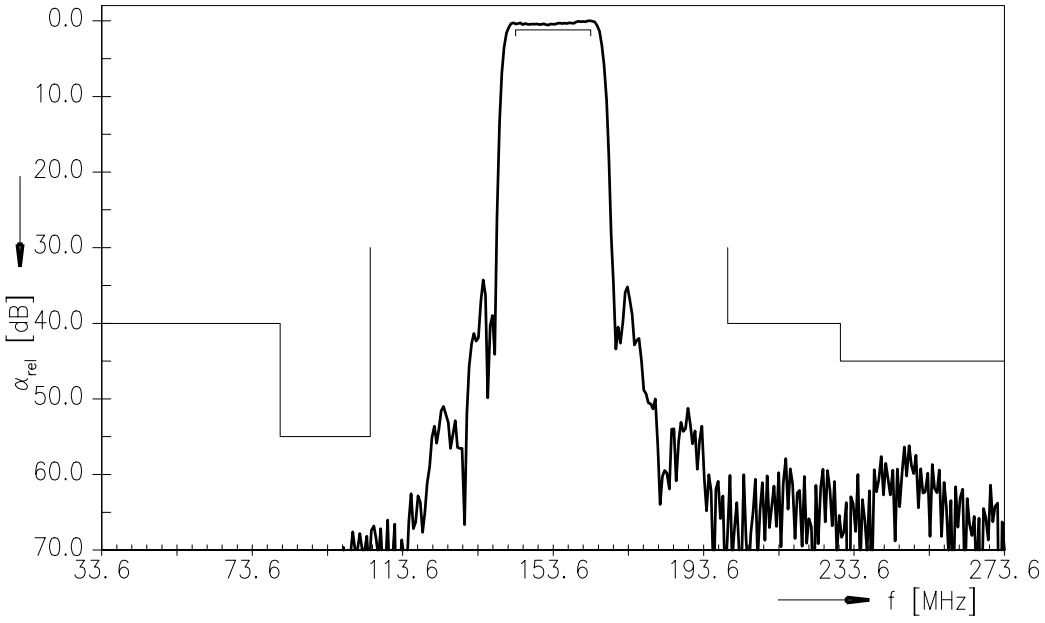
Maximum ratings

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}	13	dBm	

Transfer function (S21, Narrowband)



Transfer function (S21, Wideband)



References

Type	B5206
Ordering code	B39151B5206H810
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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Surface Acoustic Wave Components Division
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