



## SAW Components

SAW IF filter

TD-SCDMA

<b>Series/type:</b>	<b>B5206</b>
<b>Ordering code:</b>	<b>B39151B5206H810</b>
Date:	April 07, 2009
Version:	2.0

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Data sheet



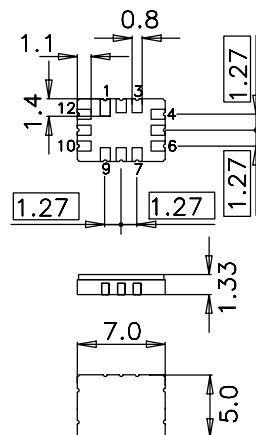
### Application

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



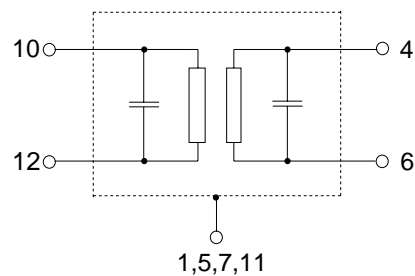
### Features

- Package size 7.0 x 5.0 x 1.33 mm<sup>3</sup>
- Package code QCC12E
- RoHS compatible
- Approximate weight 0.25 g
- Ceramic Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (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



Please read *cautions and warnings and important notes* at the end of this document.



**SAW Components**

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**153.6 MHz**

Data sheet



**Characteristics**

Temperature range for specification:  $T = -40\text{ °C to }+85\text{ °C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$  and matching network  
 Terminating load impedance:  $Z_L = 50\ \Omega$  and matching network

		min.	typ. @ 25 °C	max.	
<b>Nominal frequency</b>	$f_N$	—	153.6	—	MHz
<b>Minimum insertion attenuation</b> (including matching network)	$\alpha_{\min}$	—	7.8	10	dB
<b>Passband width</b>	$\alpha_{\text{rel}} \leq 1.0\text{ dB}$	$B_{1.0\text{dB}}$	20	23.9	— MHz
<b>Amplitude ripple (p-p)</b>	$f_N \pm 10\text{ MHz}$	$\Delta\alpha$	—	0.6	1.0 dB
<b>Phase ripple (p-p)</b>	$f_N \pm 10\text{ MHz}$	$\Delta\varphi$	—	2.5	5.0 °
<b>Absolute group delay</b>	$f_N \pm 10\text{ MHz}$	$\tau$	—	0.51	1 μs
<b>VSWR</b>	Input $f_N \pm 10\text{ MHz}$	—	1.5	2:1	
	Output $f_N \pm 10\text{ MHz}$	—	1.2	2:1	
<b>Relative attenuation (relative to <math>\alpha_{\min}</math>)</b>	$\alpha_{\text{rel}}$				
	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
<b>Temperature coefficient of frequency</b>	$TC_f$	—	-87	—	ppm/K

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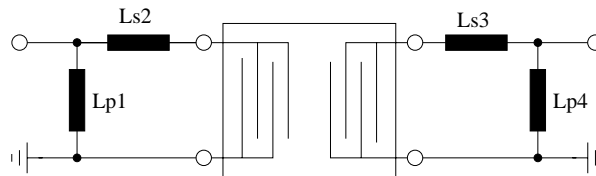
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Matching network to 50 Ω



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

Element values depend upon board layout and properties.

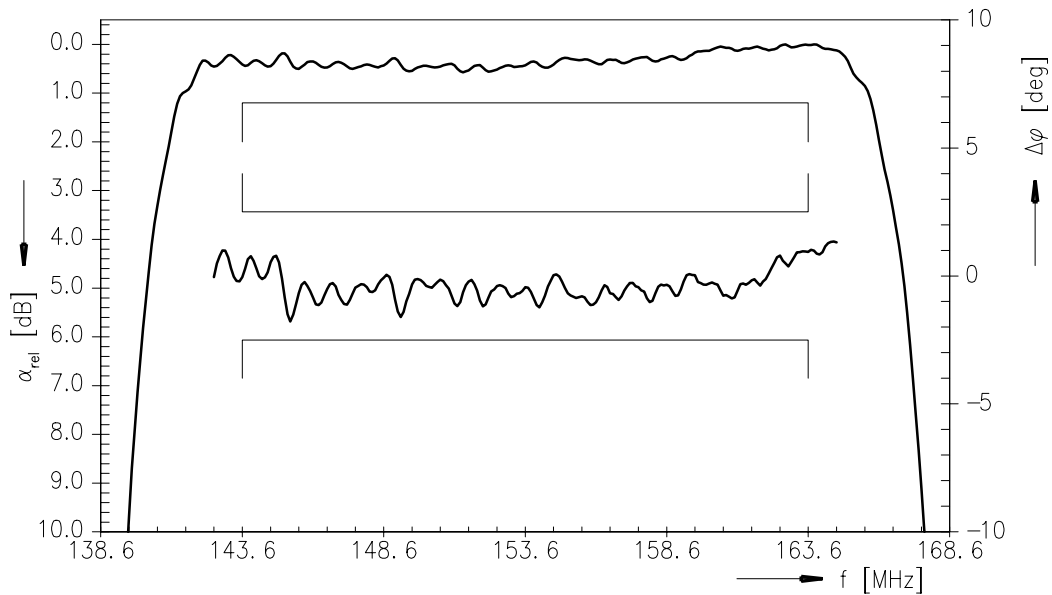
**Maximum ratings**

Operable temperature range	T	-40/+85	°C	
Storage temperature range	T <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	0	V	
Input Power	P <sub>IN</sub>	5	dBm	

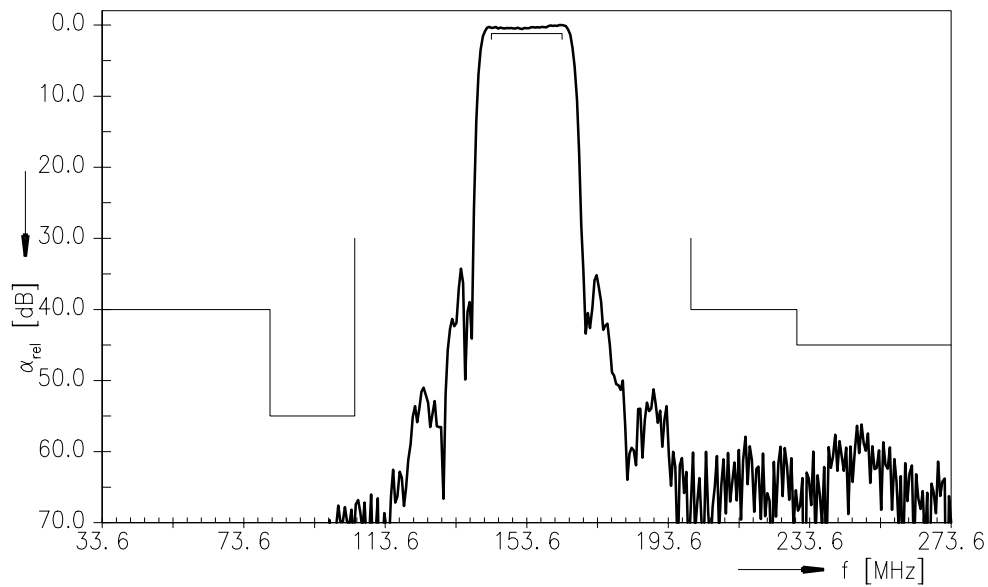
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Transfer function (S21, Narrowband)



Transfer function (S21, Wideband)



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## 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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April 07, 2009



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