



SAW Components

SAW IF filter

WCDMA

Series/type:	B5060
Ordering code:	B39171-B5060-H810
Date:	Mar 13, 2007
Version:	2.0



SAW IF filter

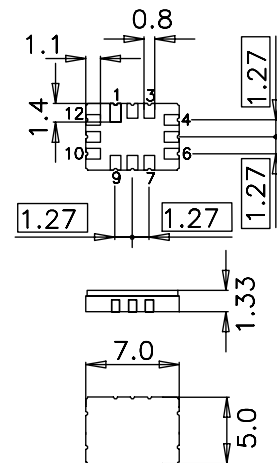
167.0 MHz

SMD

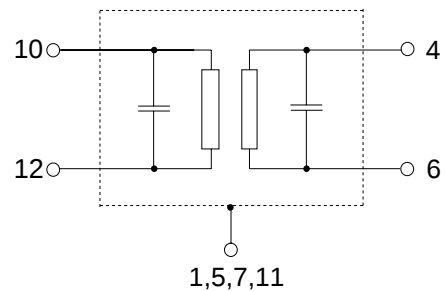
- Low-loss IF filter for WCDMA base station
- Usable passband 10 MHz
- Balanced or unbalanced operation possible



- Package size 7.0 x 5.0 x 1.33 mm³
- Package code QCC12E
- RoHS compatible
- Approx. weight 0.25 g
- Ceramic package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- Filter surface passivated



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





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Data sheet



Characteristics

Operating temperature range: $T = -10$ to $85\text{ }^{\circ}\text{C}$
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.	
Nominal frequency	f_N	—	167.0	—	MHz
Minimum insertion attenuation (including matching network)	$\alpha_{\min}$	—	6.9	8.0	dB
Maximum insertion attenuation (including matching network) $f_N \pm 5.0$ MHz	$\alpha_{\max}$	—	7.3	9.0	dB
Passband width					
$\alpha_{\text{rel}} \leq 1.0$ dB	$B_{1\text{dB}}$	10	13.0	—	MHz
Amplitude ripple (p-p)	$\Delta\alpha$				
$f_N \pm 5.0$ MHz		—	0.4	1.0	dB
Error Vector Magnitude	EVM				
$f_N - 2.5$ MHz ± 1.92 MHz		—	0.9	4.0	%
$f_N + 2.5$ MHz ± 1.92 MHz		—	0.9	4.0	%
Return Loss					
$f_N \pm 5.0$ MHz		10.0	13.0	—	dB
Input IP3					
		40	—	—	dBm
Relative attenuation (relative to $\alpha_{\min}$)	α_{rel}				
$f_N - 7.5$ MHz ... $f_N - 10.0$ MHz		0.5	5.2	—	dB
$f_N + 7.5$ MHz ... $f_N + 10.0$ MHz		1.5	6.6	—	dB
$f_N \pm 10.0$ MHz ... $f_N \pm 20.0$ MHz		25	41	—	dB
$f_N \pm 20.0$ MHz ... $f_N \pm 57.0$ MHz		40	48	—	dB
Temperature coefficient of frequency	TC_f	—	-87	—	ppm/K



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Characteristics

Operating temperature range: $T = -40$ to 85 °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.	
Nominal frequency	f_N	—	167.0	—	MHz
Minimum insertion attenuation (including matching network)	$\alpha_{\min}$	—	6.9	8.0	dB
Maximum insertion attenuation (including matching network) $f_N \pm 5.0$ MHz	$\alpha_{\max}$	—	7.3	9.0	dB
Passband width					
$\alpha_{\text{rel}} \leq 1.0$ dB	$B_{1\text{dB}}$	10	13.0	—	MHz
Amplitude ripple (p-p)	$\Delta\alpha$				
$f_N \pm 5.0$ MHz		—	0.4	1.0	dB
Error Vector Magnitude	EVM				
$f_N - 2.5$ MHz ± 1.92 MHz		—	0.9	4.0	%
$f_N + 2.5$ MHz ± 1.92 MHz		—	0.9	4.0	%
Return Loss					
$f_N \pm 5.0$ MHz		10.0	12.0	—	dB
Input IP3					
		40	—	—	dBm
Relative attenuation (relative to $\alpha_{\min}$)	α_{rel}				
$f_N - 7.5$ MHz ... $f_N - 10.0$ MHz		0.5	5.2	—	dB
$f_N + 7.5$ MHz ... $f_N + 10.0$ MHz		0.5	6.6	—	dB
$f_N \pm 10.0$ MHz ... $f_N \pm 20.0$ MHz		25	41	—	dB
$f_N \pm 20.0$ MHz ... $f_N \pm 57.0$ MHz		40	48	—	dB
Temperature coefficient of frequency	TC_f	—	-87	—	ppm/K

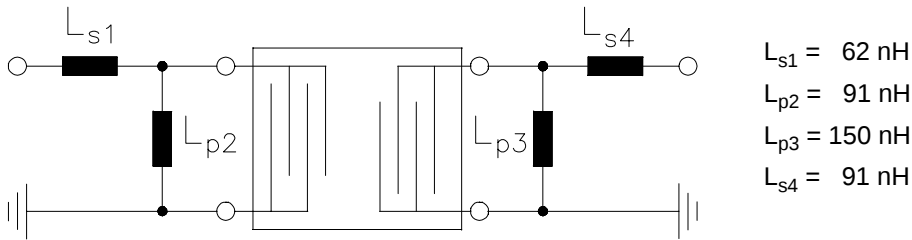


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Matching network to 50 Ω unbalanced



Maximum ratings

Operable temperature range	T	-40/+85	°C	machine model, 1 pulse for max. 100 hours
Storage temperature range	T _{stg}	-40/+85	°C	
DC voltage	V _{DC}	0	V	
ESD voltage	V _{ESD}	200 ¹⁾	V	
Input power	P _{IN}	10	dBm	
Input peak power	P _{IN,peak}	23	dBm	

¹⁾ acc. to J-STD22A-0115A (machine model, 1 pulse +/-).



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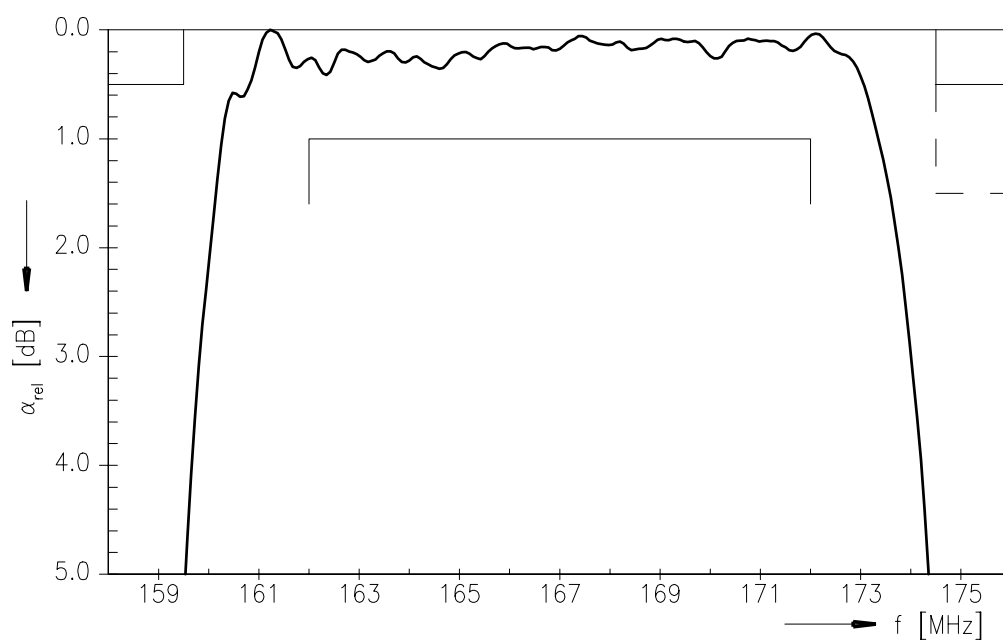
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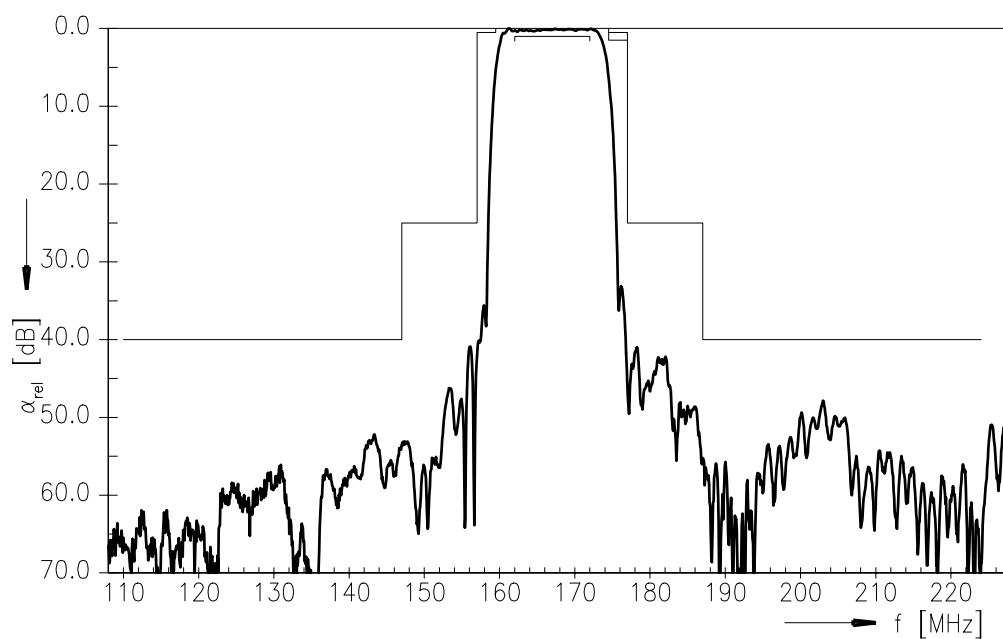
Data sheet



Transfer function



Transfer function (wideband)



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

**SAW Components****B5060****SAW IF filter****167.0 MHz**

Data sheet

**References**

Type	B5060
Ordering code	B39171-B5060-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."

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com.

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