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RF360 Europe GmbH

A Qualcomm – TDK Joint Venture

SAW Components

SAW IF filter

LTE

Series/type:	B5204
Ordering code:	B39161B5204H810
Date:	November 17, 2009
Version:	2.1

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SAW Components

SAW IF filter

Series/type: Ordering code:

Date: Version: B5204 B39161B5204H810

November 17, 2009 2.1

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SAW Components		B5204
SAW IF filter		164.0 MHz
Data Sheet	SMD	

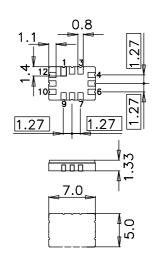
Application

- Low-loss IF filter for LTE base station
- Usable passband 20.0 MHz
- Unbalanced or balanced operation



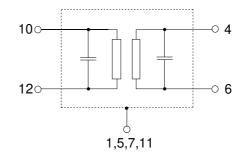
Features

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



Pin configuration

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



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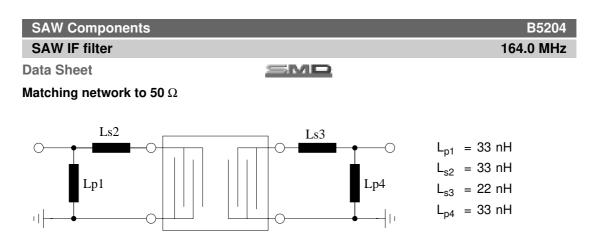
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SAW IF filter					16	64.0 MHz
Data Sheet						
Characteristics						
		т <i>и</i>	2°0 +- 0	νς °Ω		
Temperature range for sp Terminating source imped		T = -40		atching net	huork	
Ferminating load impedan				natching net		
reminating load impedan		$z_{\rm L} = 50$	52 anu n	atoming ne	WOIK	
			min.	typ.	max.	
				@ 25 °C		
Nominal frequency		f _N	_	164.0		MHz
Minimum insertion atter		α_{min}	_	7.5	9.0	dB
(including matching netwo	ork)					
Passband width						
	$\alpha_{rel} \le 1.0 \text{ dB}$	B _{1.0dB}	20.0	23.8	—	MHz
Amplitude ripple (p-p)		Δα				
	$f_N \pm 10.0$ MHz		—	0.2	1.0	dB
Phase ripple (rms)		$\Delta \phi_{rms}$				
	$f_N \pm 10.0$ MHz			0.5	2.0	0
Group delay ripple (p-p)		$\Delta \tau$				
	$f_N \pm 10.0$ MHz		—	15	50	ns
Absolute group delay (r		τ				
	$f_N \pm 10.0$ MHz			0.5	—	μs
Average Error Vector M		EVM				
f _{N, WCDMA} (I	() ¹⁾ ± 1.92MHz		_	1.0	4.0	%
Input IP3			40			dBm
Relative attenuation (re	lative to α	α_{rel}				
10 MHz 123 MHz 194 MHz 1 GHz		~rel	40	65		dB
			40	50		dB
						<u> </u>
Temperature coefficien	t of frequency	TC _f	—	-87	—	ppm/K

¹⁾ $f_{N, WCDMA}(k) = 156.5MHz + k*5MHz;$ k = (0,1,2,3)

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Element values depend upon board layout and properties.

Maximum ratings

Operable temperature range	Т	-40/+85	°C	
Storage temperature range	T _{stg}	-40/+85	°C	
DC voltage	V _{DC}	0	V	
Input power	P _{IN}	15	dBm	
Input power	P _{IN}	21	dBm	lifetime-test ongoing
Input power (peak)	P _{IN}	22	dBm	for 2 minutes

4

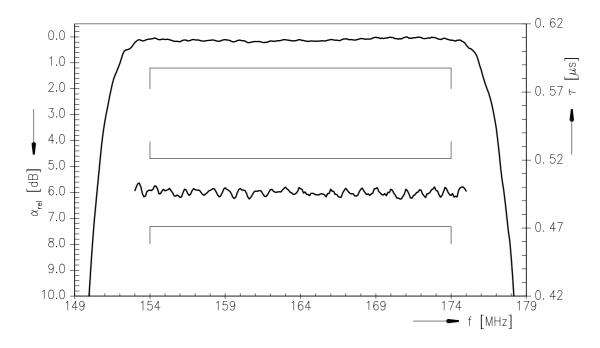
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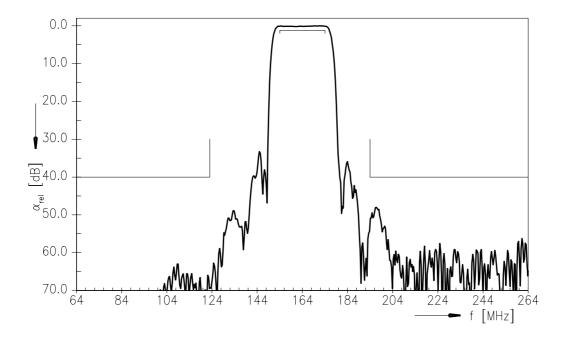
Data Sheet

SMD

Transfer function (S21, Narrowband)



Transfer function (S21, Wideband)



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SAW Components

B5204 164.0 MHz

SAW IF filter

SMD

References

Туре	B5204
Ordering code	B39161B5204H810
Marking and package	C61157-A7-A103
Packaging	F61074-V8170-Z000
Date codes	L_1126
S-parameters	B5204_NB.s2p B5204_NB_UN.s4p, B5204_WB_UN.s4p
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 maxi- mum 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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