



SAW Components

SAW filter

Multi Carrier 3G Rx Filter

Series/type: B3881(LG01E-ELPAS)

Ordering code: B39171B3881Z710

Date: Apr 24, 2012

Version: 1.0

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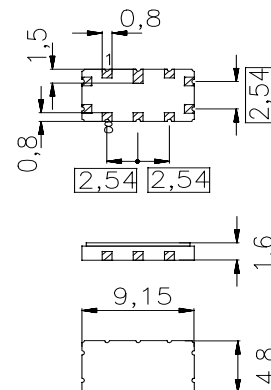
Sample data


Application

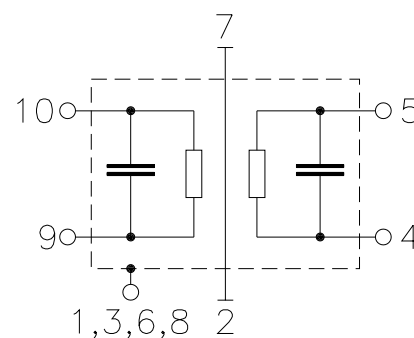
- High performance IF bandpass filter
- Multichannel W-CDMA and CDMA capable
- Hermetically sealed ceramic package
- unbalanced to unbalanced and unbalanced to balanced operation possible


Features

- Package size 9.15 x 4.8 x 1.6 mm³
- Package code QCC10B
- RoHS compatible
- Approx. weight 0.23 g
- Ceramic package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- Filter surface passivated
- **Moisture Sensitive Level 1**


Pin configuration

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



SAW Components
B3881
SAW filter
168.96 MHz
Sample data

Characteristics

Operating temperature range:	T = +35 to 85 °C
Terminating source impedance:	Z _S = 50 Ω single ended and matching network
Terminating load impedance:	Z _L = 50 Ω single ended and matching network

		min.	typ. @ 25 °C	max.	
Nominal frequency	f _N	—	168.96	—	MHz
Minimum insertion attenuation (including matching network)	α _{min}	—	19.8	21.5	dB
Passband Width					
α _{rel} ≤ 1dB	B _{1dB}	—	14.1	—	MHz
α _{rel} ≤ 2dB	B _{2dB}	—	14.5	—	MHz
α _{rel} ≤ 40dB	B _{40dB}	—	17.1	—	MHz
		—	17.1	—	MHz
Amplitude ripple (p-p)	Δα				
	f _N ± 6.67 MHz	—	0.6	1.0	dB
Group delay ripple (p-p)	Δτ				
	f _N ± 6.67MHz	—	60	120	ns
Phase Linearity¹⁾(rms)	Δφ				
	f _N ±1.92 MHz	—	0.5	1.0	°
	f _N -5.0MHz ±1.92MHz	—	1.5	2.0	°
	f _N +5.0MHz ±1.92MHz	—	0.9	1.5	°
	f _N +k*1.25 MHz ± 0.6144MHz	—	0.7	1.3	°
Average Error Vector Magnitude ¹⁾	EVM				
	f _N ±1.92MHz	—	1.3	3.0	%
	f _N -5.0MHz ±1.92MHz	—	3.0	4.0	%
	f _N +5.0MHz ±1.92MHz	—	2.5	4.0	%
	f _N +k*1.25 MHz ±0.6144MHz	—	1.8	4.0	%
Relative attenuation (relative to α_{min})	α _{rel}				
	f _N ± 7.5 MHz ... f _N ± 17.5 MHz	2	4	—	dB
	f _N ± 17.5 MHz ... f _N ± 21.5 MHz	35	38	—	dB
	f _N ± 21.5 MHz ... f _N ± 25.5 MHz	36	40	—	dB
	f _N ± 25.5 MHz ... f _N ± 49.0 MHz	38	42	—	dB
	f _N ± 49.0 MHz ... f _N ± 66.0 MHz	45	50	—	dB
	f _N ± 66.0 MHz ... f _N ± 111.0 MHz	40	50	—	dB
Temperature coefficient of frequency	TC _f	—	-18	—	ppm/K ²

¹⁾ Phase Linearity/Average Error Vector Magnitude: where k=(-5,-4+5)

Sample data

Characteristics

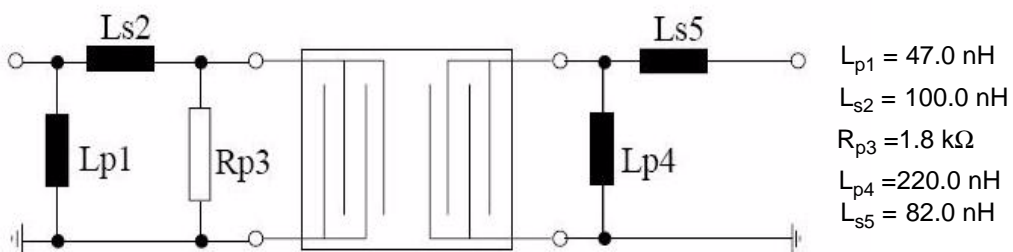
Operating temperature range:	T = 0 to 85 °C
Terminating source impedance:	Z _S = 50 Ω single ended and matching network
Terminating load impedance:	Z _L = 50 Ω single ended and matching network

		min.	typ. @ 25 °C	max.	
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	f _N + 7.5 MHz ... f _N + 17.5 MHz	1.5	4	—	dB
	f _N ± 17.5 MHz ... f _N ± 21.5 MHz	35	38	—	dB
	f _N ± 21.5 MHz ... f _N ± 25.5 MHz	36	40	—	dB
	f _N ± 25.5 MHz ... f _N ± 49.0 MHz	38	42	—	dB
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Temperature coefficient of frequency	TC _f	—	-18	—	ppm/K ²

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Matching network to 50 Ω

(Element values depend upon PCB layout)

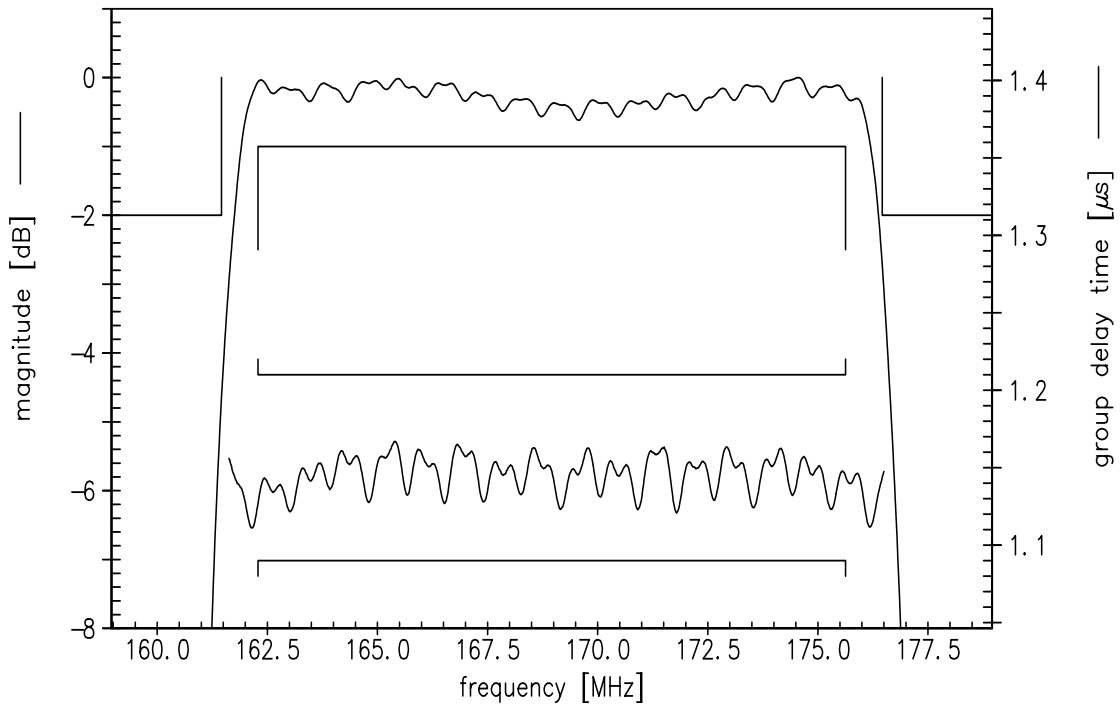

Maximum ratings

Operable temperature range	T	-40/+85	°C	
Storage temperature range	T _{sta}	-40/+85	°C	
DC voltage	V _{DC}	5	V	
Input power	P _{IN}	10	dBm	

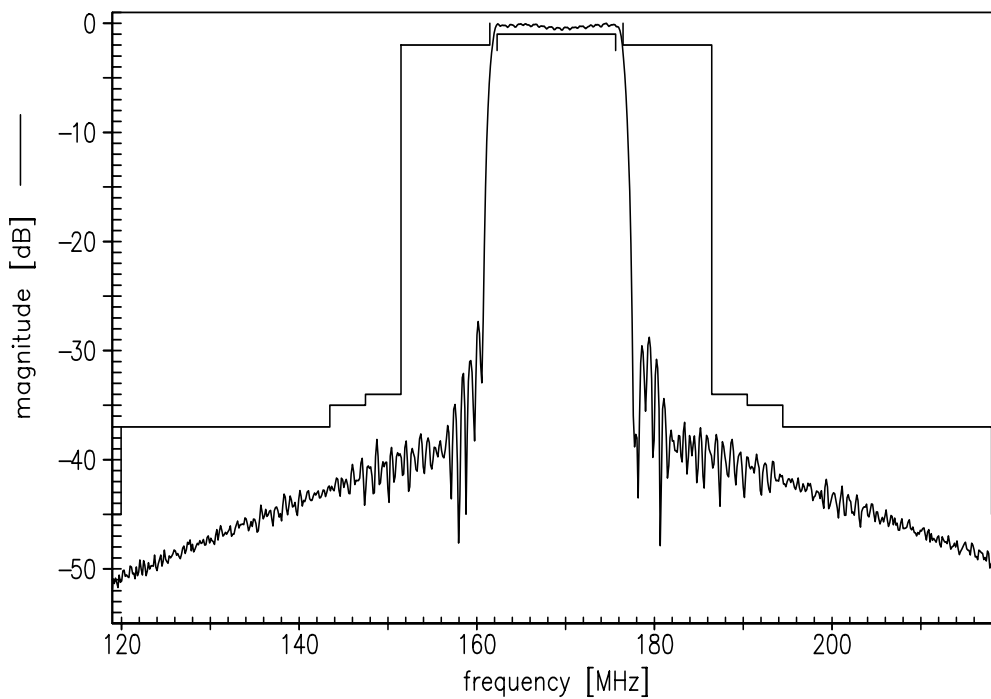
Sample data



Normalized frequency response (pass band), matching network



Normalized frequency response, matching network (single ended to single ended)



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References

Type	B3881
Ordering code	B39171B3881Z710
Marking and package	C61157-A7-A49
Packaging	F61074-V8172-Z000
Date codes	L_1126
S-parameters	B3881.NB.s2p B3881.WB.s2p see file header for port/pin assignment table
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."
Matching coils	See Inductor pdf-catalog http://www.tdk.co.jp/tefe02/coil.htm#aname1 and Data Library for circuit simulation http://www.tdk.co.jp/etvcl/index.htm

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