



SAW Components

SAW IF filter

WLL

Series/type:	B5251
Ordering code:	B39311B5251H810
Date:	May 03, 2012
Version:	2.0

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SAW Components
B5251
SAW IF filter
307.2 MHz
Data Sheet

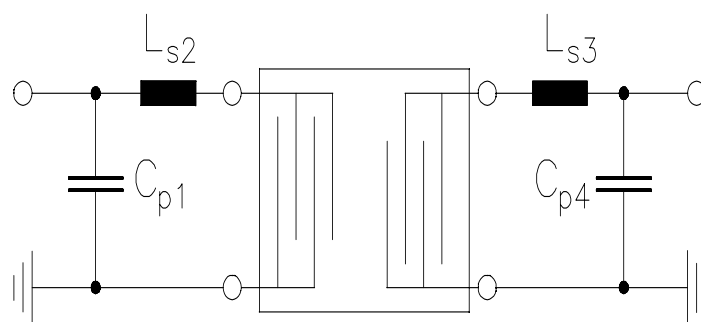
Characteristics

Operating temperature range:	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	—	307.2	—	MHz
Minimum insertion attenuation (including matching network)	α _{min}	—	11	12.5	dB
Passband width					
α _{rel} ≤ 1.2 dB	B _{1.2 dB}	41	46.2	—	MHz
α _{rel} ≤ 3 dB	B _{3 dB}	43	48.0	—	MHz
Error vector magnitude					
f _{N,WCDMA(k)} ¹⁾ ± 1.92 MHz		—	2	3	%
Amplitude ripple (p-p)	Δα				
f _N ± 20.5 MHz		—	0.7	1.2	dB
Phase ripple (p-p)	Δφ				
f _N ± 20.5 MHz		—	6.2	10	deg
Absolute group delay	τ				
f _N ± 20.5 MHz		—	0.55	1.0	μs
Group delay ripple (p-p)	Δτ				
f _N ± 20.5 MHz		—	30	100	ns
Relative attenuation (relative to α_{min})	α _{rel}				
100.00 MHz ... 210.00 MHz		45	53	—	dB
210.00 MHz ... 275.00 MHz		40	50	—	dB
339.00 MHz ... 400.00 MHz		38	42	—	dB
400.00 MHz ... 600.00 MHz		45	52	—	dB
600.00 MHz ... 1000.0 MHz		45	68	—	dB
Temperature coefficient of frequency	TC _f	—	-75	—	ppm/K

¹⁾ f_{N,WCDMA(k)} = 287.9 MHz + k * 5 MHz; k = (0, 1, 2, 3, 4, 5, 6, 7)

Matching network to 50 Ω Input / 50 Ω Output :



Cp1=18pF
Ls2=8.2nH

Ls3= 9.5nH
Cp4=16pF

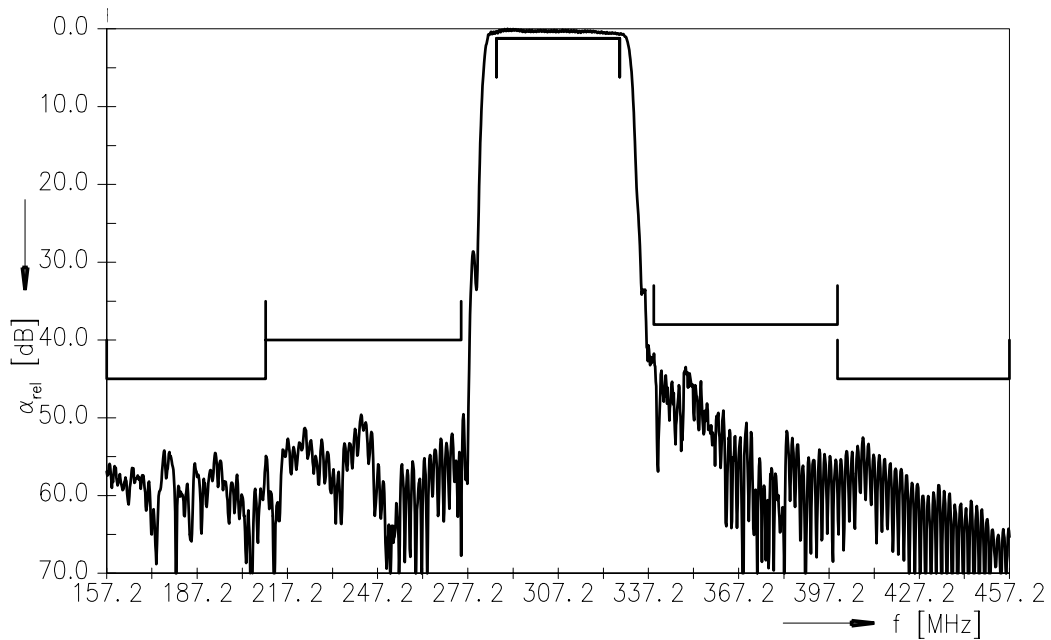
(matching element values depend on PCB layout)

Maximum ratings

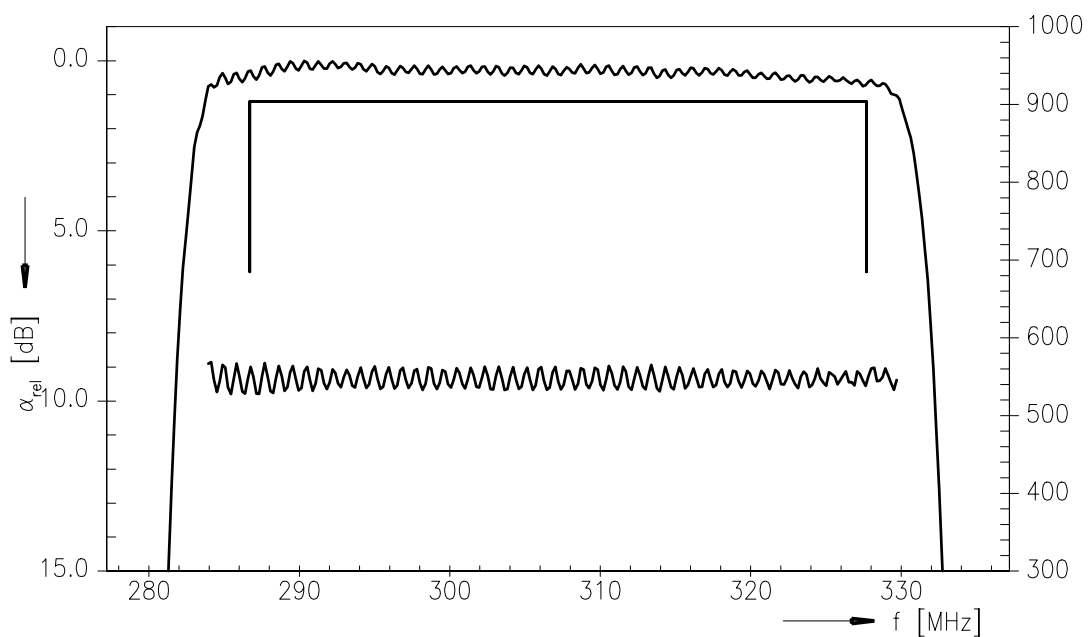
Operable temperature range	T	-40/+85	°C	
Storage temperature range	T _{stg}	-40/+85	°C	
DC voltage	V _{DC}	0	V	
Input power in $f_N \pm 20.5$ MHz	P _{IN}	10	dBm	



Transfer function (Wide band)



Transfer function (Passband)



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References

Type	B5251
Ordering code	B39311B5251H810
Marking and package	C61157-A7-A103
Packaging	F61074-V8170-Z000
Date codes	L_1126
S-parameters	B5251_NB.s2p, B5251_WB.s2p see file header for port/in 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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