



SAW Components

SAW filter

LTE

Series/type:	B5130
Ordering code:	B39851B5130U410
Date:	April 30, 2010
Version:	2.0



SAW Components

B5130

SAW filter

847.00 MHz

Data sheet



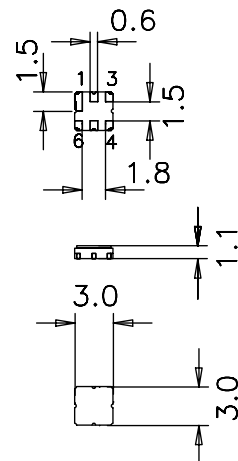
Application

- RF filter for LTE800MHz BTS Rx
- Unbalanced to Unbalanced operation
- Low amplitude ripple
- Usable passband of 30 MHz
- No matching required for operation at 50Ω



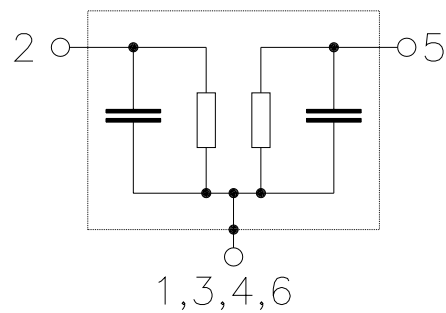
Features

- Package size 3.0 x 3.0 x 1.1 mm³
- Package code DCC6C
- RoHS compatible
- Approximate weight 0.037 g
- Package for Surface Mount Technology (SMT)
- Ni, gold-plated terminals
- Electrostatic Sensitive Device (ESD)



Pin configuration

- 2 Input
- 5 Output
- 1,3,4,6 Case grounded





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Characteristics

Temperature range for specification: $T = -10\text{ °C to }+80\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 50\ \Omega$

		min.	typ. @ 25 °C	max.	
Center frequency	f_C	—	847.0	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$				
	$f_C \pm 15.0\text{ MHz}$	—	2.4	3.2	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
	$f_C \pm 15.0\text{ MHz}$	—	1.2	2.0	dB
Group delay ripple (p-p)	$\Delta\tau$				
	$f_C \pm 15.0\text{ MHz}$	—	40	60	ns
Mean value of absolute group delay	$\bar{\tau}$				
	$f_C \pm 15.0\text{ MHz}$	—	35	300	ns
Input VSWR					
	$f_C \pm 15.0\text{ MHz}$	—	1.9:1	2.2:1	
Output VSWR					
	$f_C \pm 15.0\text{ MHz}$	—	2.1:1	2.3:1	
Attenuation	α				
	10.0 ... 726.0 MHz	30	37	—	dB
	726.0 ... 791.0 MHz	30	32	—	dB
	791.0 ... 815.0 MHz	30	32	—	dB
	815.0 ... 821.0 MHz	30	32	—	dB
	874.0 ... 879.0 MHz	11	23	—	dB
	879.0 ... 884.0 MHz	25	33	—	dB
	884.0 ... 1300.0 MHz	30	35	—	dB
	1300.0 ... 3000.0 MHz	15	18	—	dB



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Characteristics

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

		min.	typ. @ 25 °C	max.	
Center frequency	f_C	—	847.0	—	MHz
Maximum insertion attenuation	$\alpha_{\max}$				
	$f_C \pm 15.0\text{ MHz}$	—	2.4	3.4	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
	$f_C \pm 15.0\text{ MHz}$	—	1.2	2.2	dB
Group delay ripple (p-p)	$\Delta\tau$				
	$f_C \pm 15.0\text{ MHz}$	—	40	60	ns
Mean value of absolute group delay	$\bar{\tau}$				
	$f_C \pm 15.0\text{ MHz}$	—	35	300	ns
Input VSWR					
	$f_C \pm 15.0\text{ MHz}$	—	1.9:1	2.2:1	
Output VSWR					
	$f_C \pm 15.0\text{ MHz}$	—	2.1:1	2.3:1	
Attenuation	α				
10.0 ... 582.0 MHz		34	37	—	dB
582.0 ... 722.0 MHz		38	41	—	dB
722.0 ... 792.0 MHz		30	32	—	dB
792.0 ... 820.0 MHz		15	31	—	dB
902.0 ... 928.0 MHz		33	36	—	dB
928.0 ... 1300.0 MHz		30	33	—	dB
1300.0 ... 3000.0 MHz		15	18	—	dB

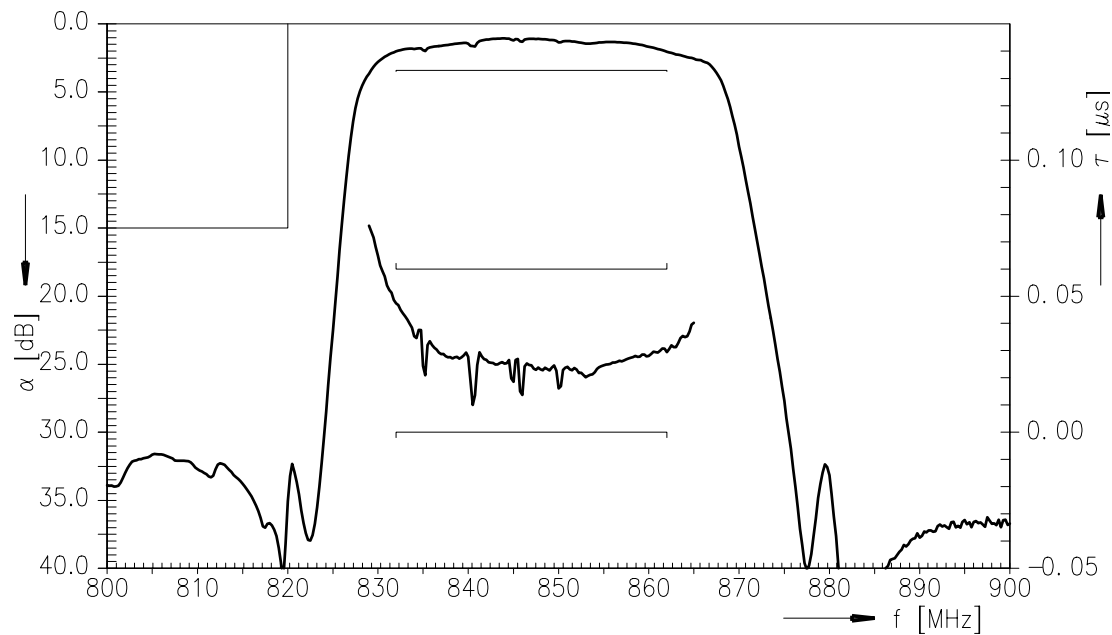
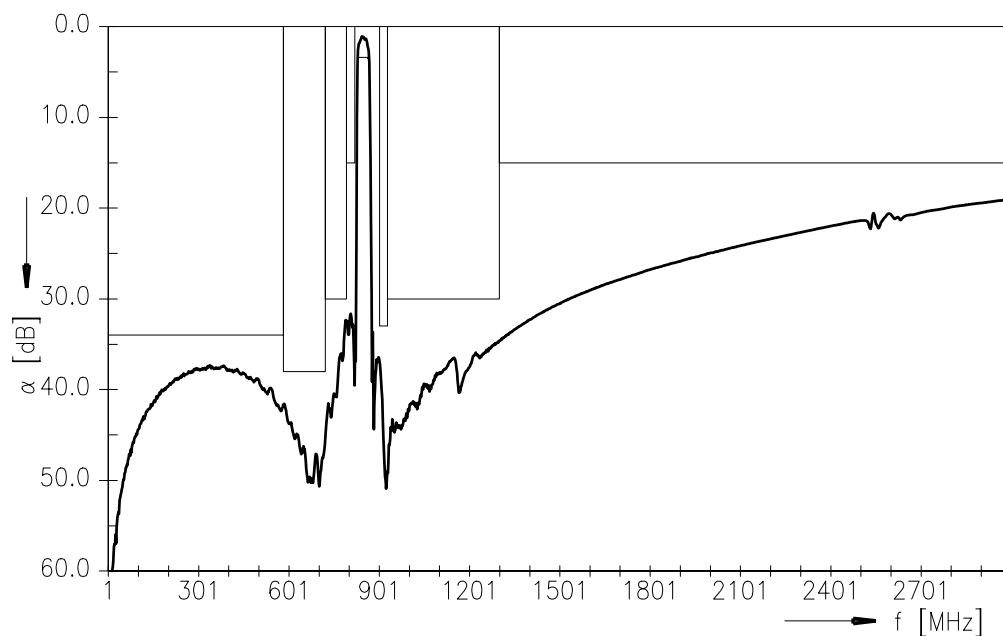


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Maximum ratings

Operable temperature range	T	−40/+85	°C	machine model, 1 pulse
Storage temperature range	T _{stg}	−40/+85	°C	
DC voltage	V _{DC}	0	V	
ESD voltage	V _{ESD}	100 ¹⁾	V	
Input power at 832.0 ... 862.0	P _{IN}	15	dBm	10000hrs, CW

¹⁾ acc. to JESD22-A115A (machine model), 1 negative & 1 positive pulse.

**SAW Components****B5130****SAW filter****847.00 MHz****Data sheet****Transfer function (-40 to +85 °C)****Transfer function (wideband)**



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B5130

SAW filter

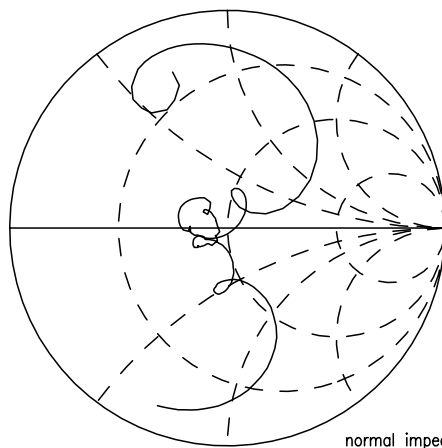
847.00 MHz

Data sheet

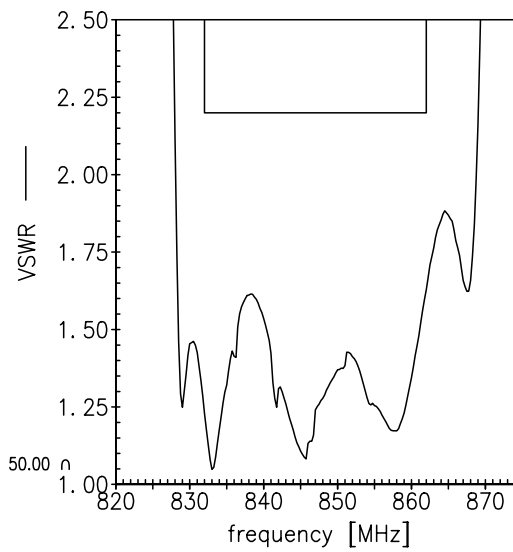


Smith charts

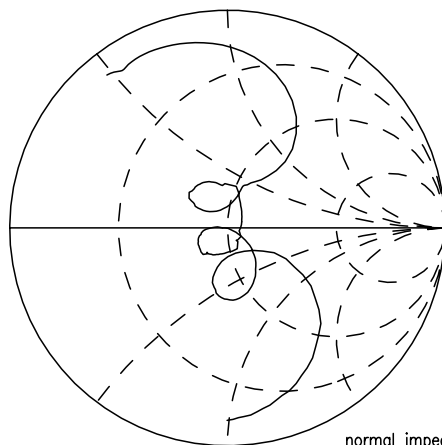
S_{11} function



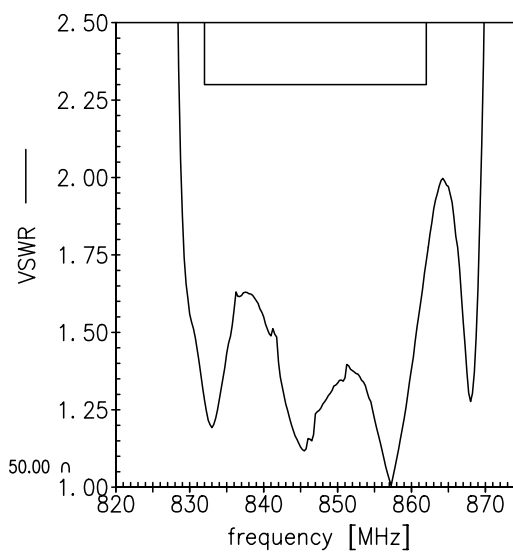
normal impedance: 50.00 Ω



S_{22} function



normal impedance: 50.00 Ω



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Data sheet

**References**

Type	B5130
Ordering code	B39851B5130U410
Marking and package	C61157-A7-A67
Packaging	F61074-V8168-Z000
Date codes	L_1126
S-parameters	B5130_NB.s2p B5130_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."

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

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