



## SAW Components

SAW filter

LTE

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

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B5130

SAW filter

847.00 MHz

Data sheet

SMD

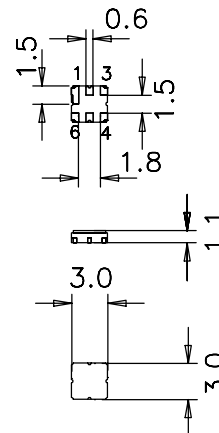
### Application

- 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



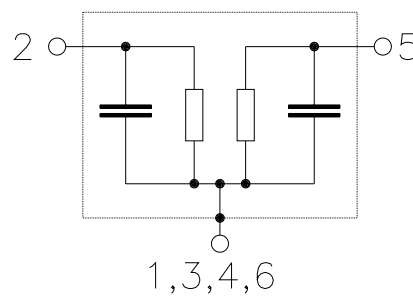
### Features

- Package size 3.0 x 3.0 x 1.1 mm<sup>3</sup>
- 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



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

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Data sheet



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.	
<b>Center frequency</b>	$f_C$	—	847.0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$ $f_C \pm 15.0\text{MHz}$	—	2.4	3.2	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$ $f_C \pm 15.0\text{MHz}$	—	1.2	2.0	dB
<b>Group delay ripple (p-p)</b>	$\Delta\tau$ $f_C \pm 15.0\text{MHz}$	—	40	60	ns
<b>Mean value of absolute group delay</b>	$\bar{\tau}$ $f_C \pm 15.0\text{MHz}$	—	35	300	ns
<b>Input VSWR</b>	$f_C \pm 15.0\text{MHz}$	—	1.9:1	2.2:1	
<b>Output VSWR</b>	$f_C \pm 15.0\text{MHz}$	—	2.1:1	2.3:1	
<b>Attenuation</b>	$\alpha$				
	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



Data sheet



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.	
<b>Center frequency</b>	$f_C$	—	847.0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$ $f_C \pm 15.0\text{MHz}$	—	2.4	3.4	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$ $f_C \pm 15.0\text{MHz}$	—	1.2	2.2	dB
<b>Group delay ripple (p-p)</b>	$\Delta\tau$ $f_C \pm 15.0\text{MHz}$	—	40	60	ns
<b>Mean value of absolute group delay</b>	$\bar{\tau}$ $f_C \pm 15.0\text{MHz}$	—	35	300	ns
<b>Input VSWR</b>	$f_C \pm 15.0\text{MHz}$	—	1.9:1	2.2:1	
<b>Output VSWR</b>	$f_C \pm 15.0\text{MHz}$	—	2.1:1	2.3:1	
<b>Attenuation</b>	$\alpha$				
	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	
Storage temperature range	T <sub>stg</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	0	V	
ESD voltage	V <sub>ESD</sub>	100 <sup>1)</sup>	V	machine model, 1 pulse
Input power at 832.0 ... 862.0	P <sub>IN</sub>	15	dBm	10000hrs, CW

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

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



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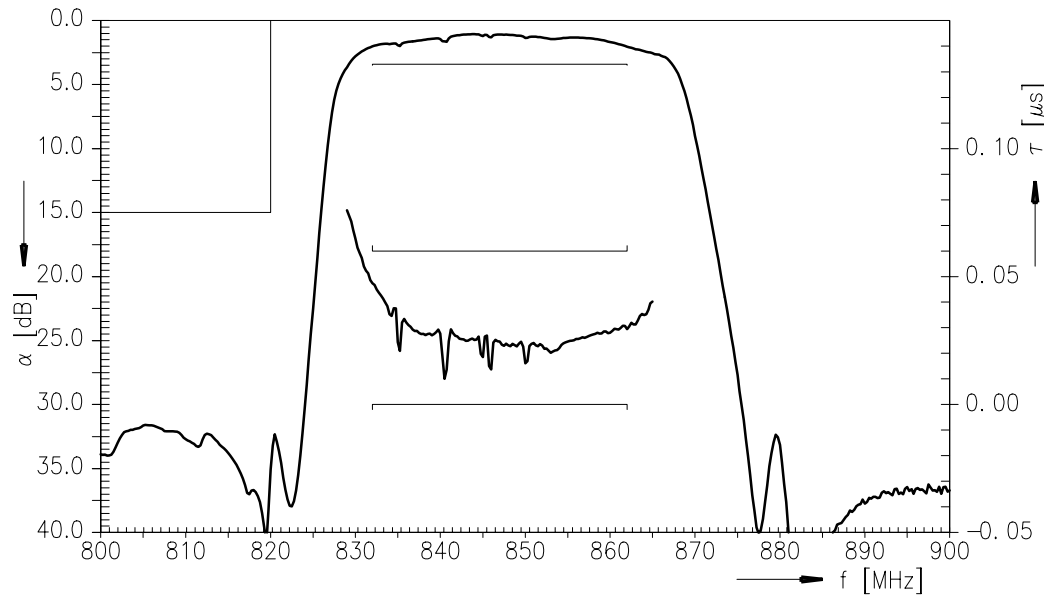
SAW filter

847.00 MHz

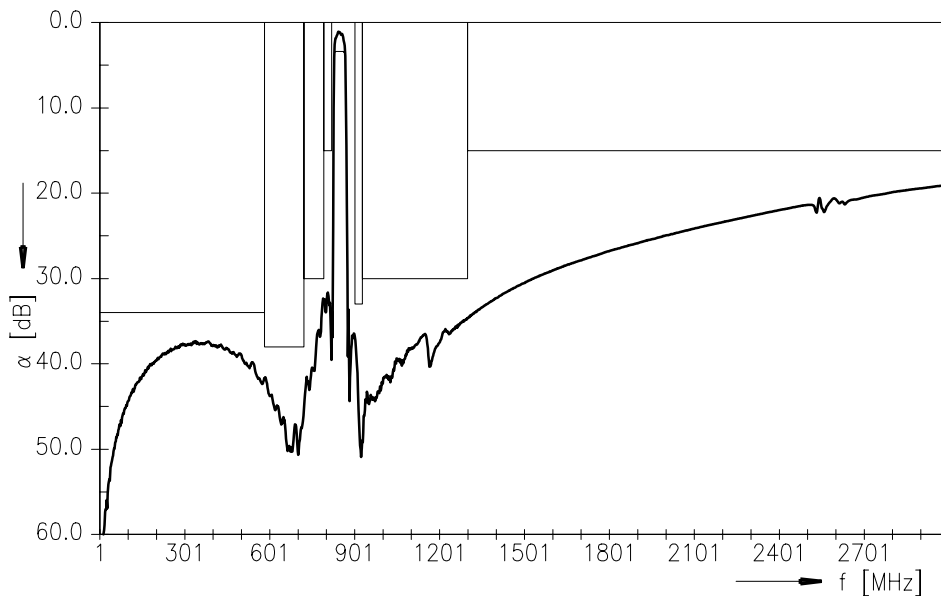
Data sheet



Transfer function (-40 to +85 °C)



Transfer function (wideband)



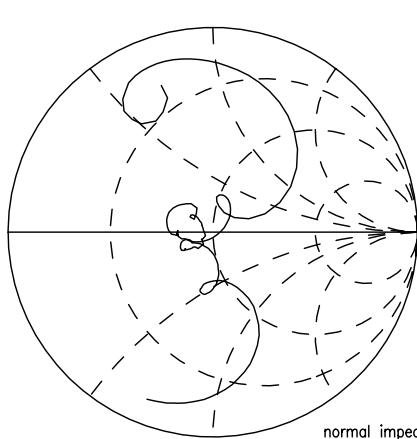
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Data sheet

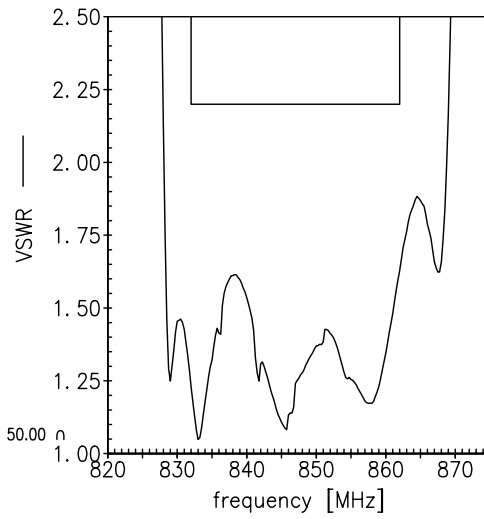


Smith charts

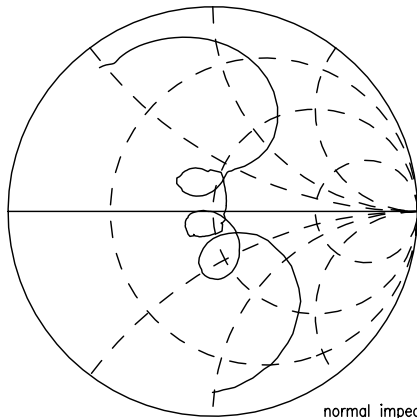
S<sub>11</sub> function



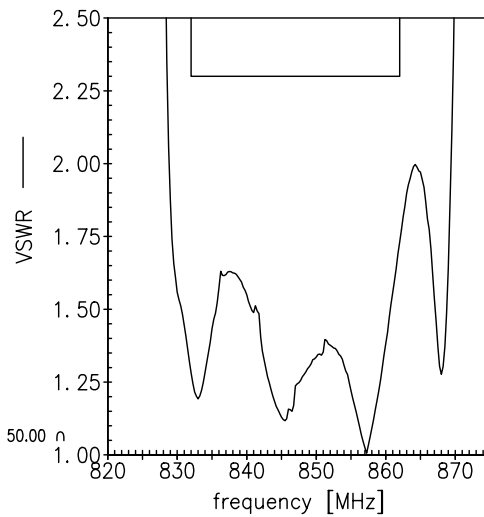
normal impedance: 50.00  $\Omega$



S<sub>22</sub> function



normal impedance: 50.00  $\Omega$



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#### References

<b>Type</b>	B5130
<b>Ordering code</b>	B39851B5130U410
<b>Marking and package</b>	C61157-A7-A67
<b>Packaging</b>	F61074-V8168-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B5130_NB.s2p B5130_WB.s2p See file header for port/pin assignment table
<b>Soldering profile</b>	S_6001
<b>RoHS compatible</b>	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."

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

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