SAW Components

SAW filter

LTE

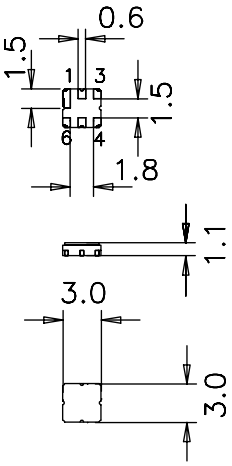
Series/type:	**B5130**
Ordering code:	**B39851B5130U410**
Date:	April 30, 2010
Version:	2.0

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

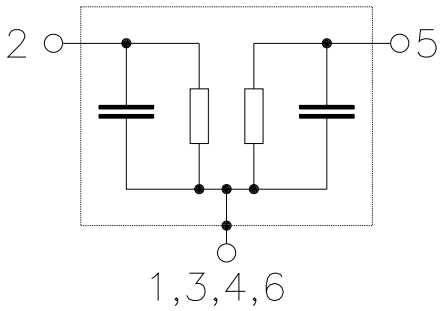
Features

- 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



Data sheet SMD

Characteristics

Temperature range for specification: T = -10 ˚C to +80 ˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

		min.	typ. @ 25 ˚C	max.	
Center frequency	f_C	—	847.0	—	MHz
Maximum insertion attenuation	α_{max}				
f_C ±15.0MHz		—	2.4	3.2	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
f_C ±15.0MHz		—	1.2	2.0	dB
Group delay ripple (p-p)	$\Delta\tau$				
f_C ±15.0MHz		—	40	60	ns
Mean value of absolute group delay	$\bar{\tau}$				
f_C ±15.0MHz		—	35	300	ns
Input VSWR					
f_C ±15.0MHz		—	1.9:1	2.2:1	
Output VSWR					
f_C ±15.0MHz		—	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

Characteristics

Temperature range for specification: T = -40 ˚C to +85 ˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

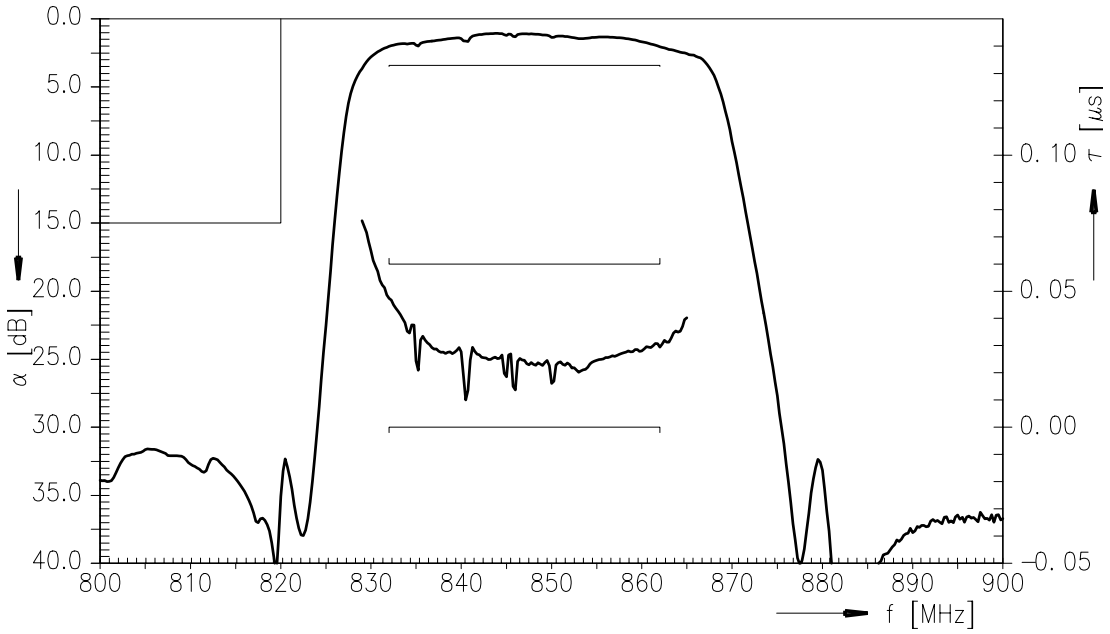
		min.	typ. @ 25 ˚C	max.	
Center frequency	f_C	—	847.0	—	MHz
Maximum insertion attenuation	α_{max}				
f_C ±15.0MHz		—	2.4	3.4	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
f_C ±15.0MHz		—	1.2	2.2	dB
Group delay ripple (p-p)	$\Delta\tau$				
f_C ±15.0MHz		—	40	60	ns
Mean value of absolute group delay	$\bar{\tau}$				
f_C ±15.0MHz		—	35	300	ns
Input VSWR					
f_C ±15.0MHz		—	1.9:1	2.2:1	
Output VSWR					
f_C ±15.0MHz		—	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

Maximum ratings

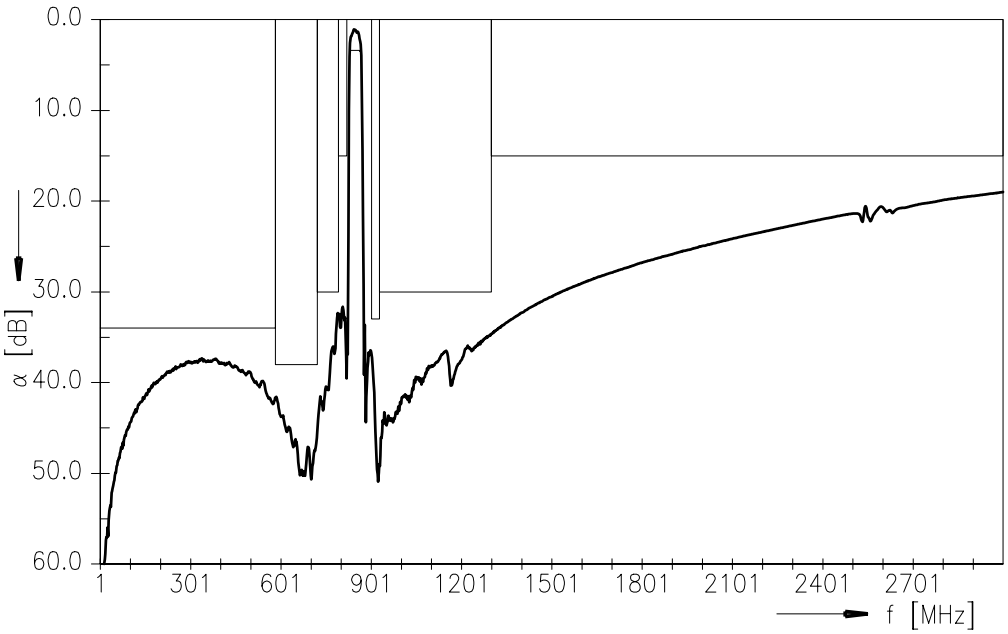
Operable temperature range	T	–40/+85	°C	
Storage temperature range	T_{stg}	–40/+85	°C	
DC voltage	V_{DC}	0	V	
ESD voltage	V_{ESD}	100[1)]	V	machine model, 1 pulse
Input power at				
832.0 ... 862.0	P_{IN}	15	dBm	10000hrs, CW

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

Transfer function (-40 to +85 ˚C)

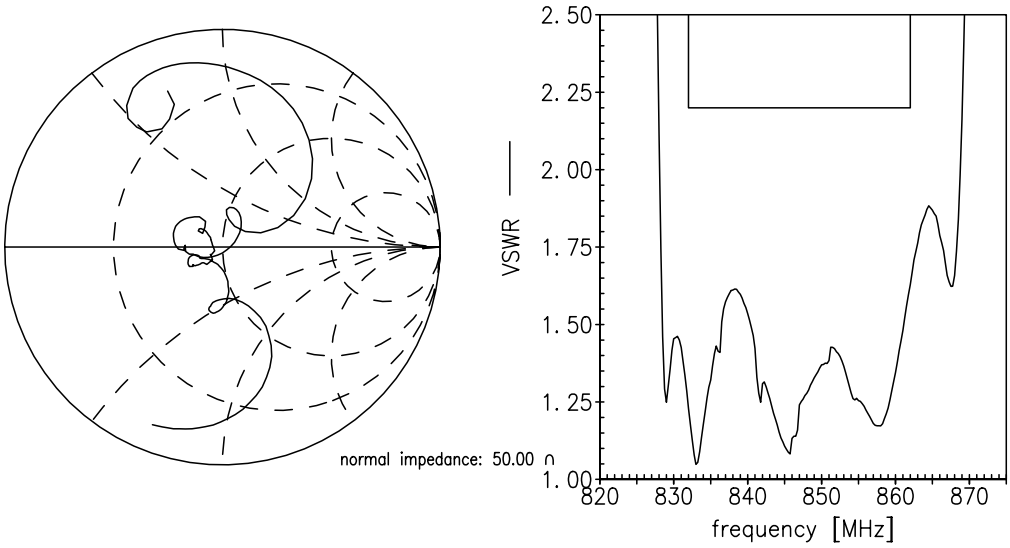


Transfer function (wideband)

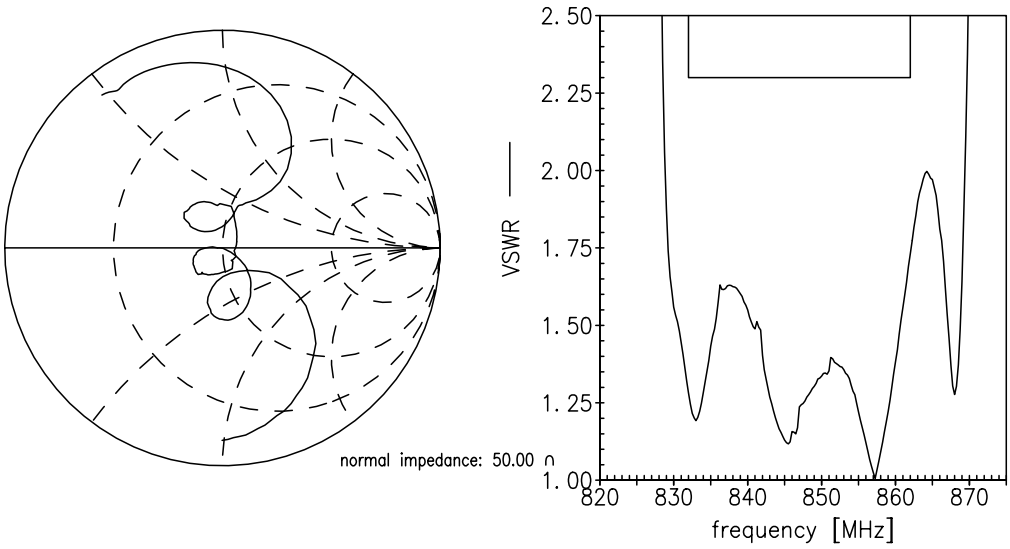


Smith charts

S_{11} function



S_{22} function



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."

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