



SAW Components

SAW RF filter for base stations

LTE 800

Series/type: B5131
Ordering code: B39811B5131U410

Date: Oct 08, 2015
Version: 2.3

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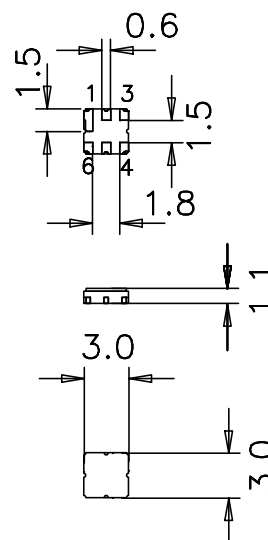
Data sheet

Application

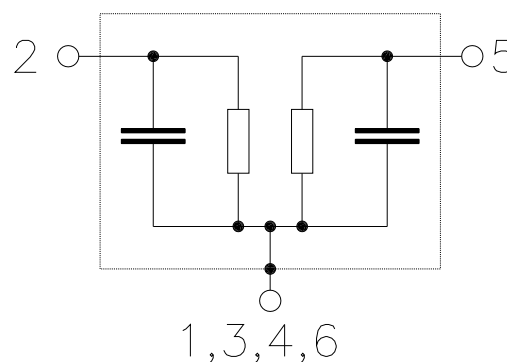
- RF filter for LTE 800 MHz BTS Tx
- Unbalanced to unbalanced operation
- Low amplitude ripple
- Usable passband 30 MHz
- No matching required for operation at 50 Ω


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)**
- **Moisture Sensitivity Level 1**
- Filter surface passivated


Pin configuration

- 2 Input
- 5 Output
- 1, 3, 4, 6 To be grounded



Data sheet


Characteristics

Temperature range for specification: $T = -40\text{ °C to }+95\text{ °C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 50\ \Omega$

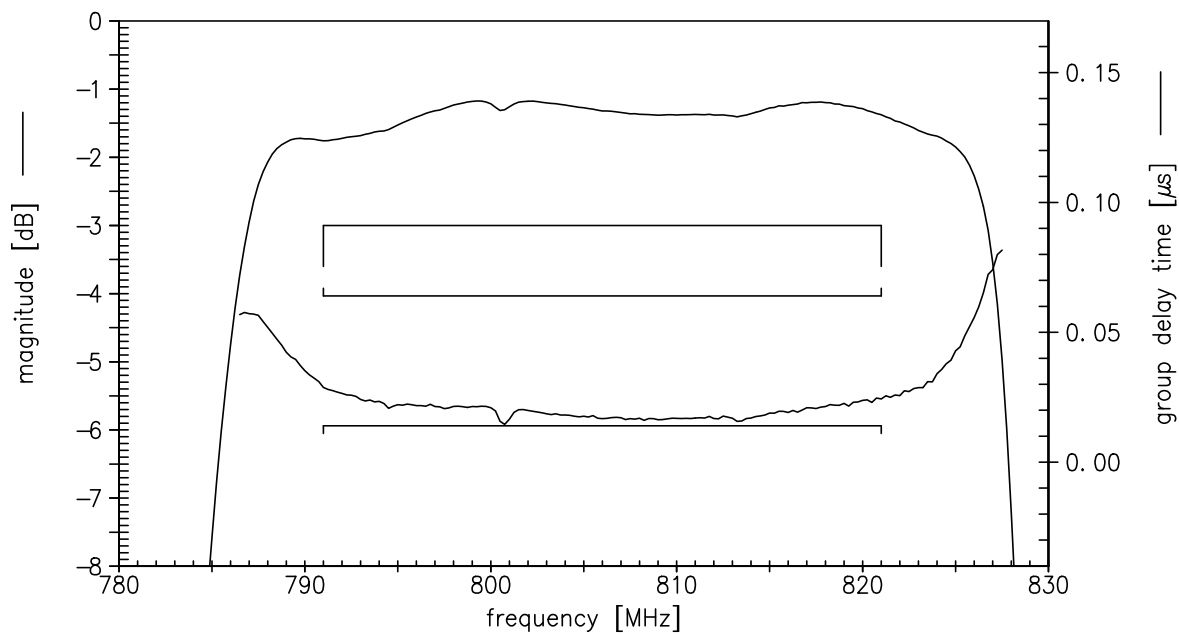
		min.	typ. @ 25 °C	max.	
Center frequency	f_C	—	806.0	—	MHz
Minimum insertion attenuation	α_{\min}	—	1.2	—	dB
Maximum insertion attenuation 791.0 ... 821.0 MHz	α_{\max}	—	1.8	3.0	dB
Amplitude ripple (p-p) 791.0 ... 821.0 MHz	$\Delta\alpha$	—	0.8	1.0	dB
Group delay ripple (p-p) 791.0 ... 821.0 MHz	$\Delta\tau$	—	30	50	ns
Input return loss 791.0 ... 821.0 MHz		9	11	—	dB
Output return loss 791.0 ... 821.0 MHz		9	11	—	dB
Relative attenuation (relative to α_{\min})	α_{rel}				
1.0 ... 715.4 MHz		25	31	—	dB
715.4 ... 770.0 MHz		15	23	—	dB
832.0 ... 880.0 MHz		13	15	—	dB
880.0 ... 921.0 MHz		20	26	—	dB
944.0 ... 960.0 MHz		27	30	—	dB
921.0 ... 3800.0 MHz		25	30	—	dB

Maximum ratings

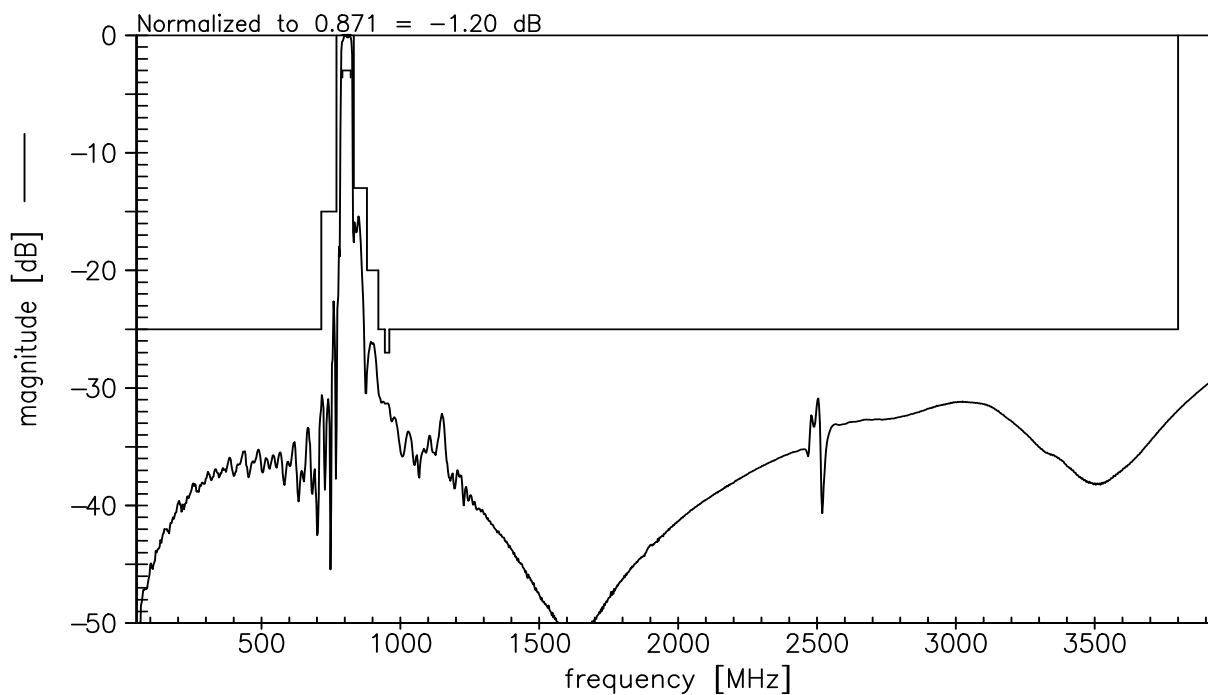
Operable temperature range	T	-45/+125	°C	
Storage temperature range	T _{stg}	-45/+125	°C	
DC voltage	V _{DC}	0	V	
ESD voltage	V _{ESD}	100 ¹⁾	V	Machine Model
Input power at	P _{IN}			
791.0 ... 821.0 MHz		23	dBm	cw, 2 h, 95 °C
791.0 ... 821.0 MHz		15	dBm	cw, 100000 h, 95 °C

1) acc. to JESD22-A115B (MM - Machine Model), 10 negative & 10 positive pulses

Transfer function (S21, narrowband)



Transfer function (S21, wideband)

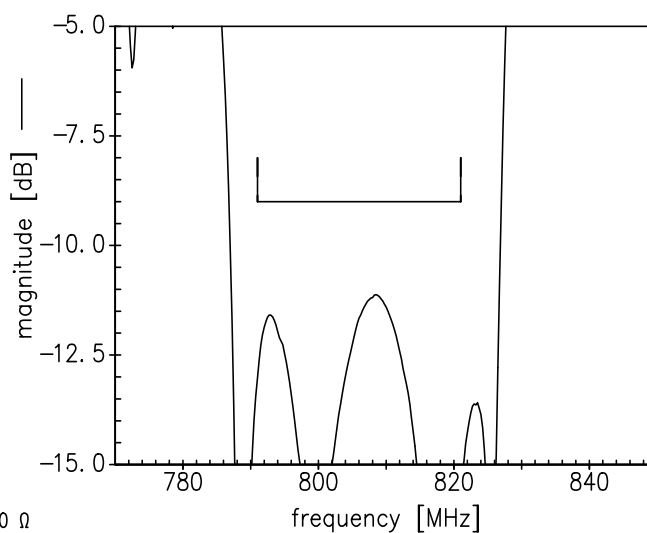
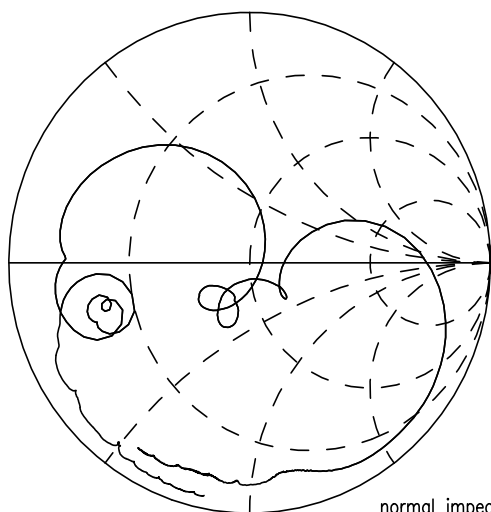


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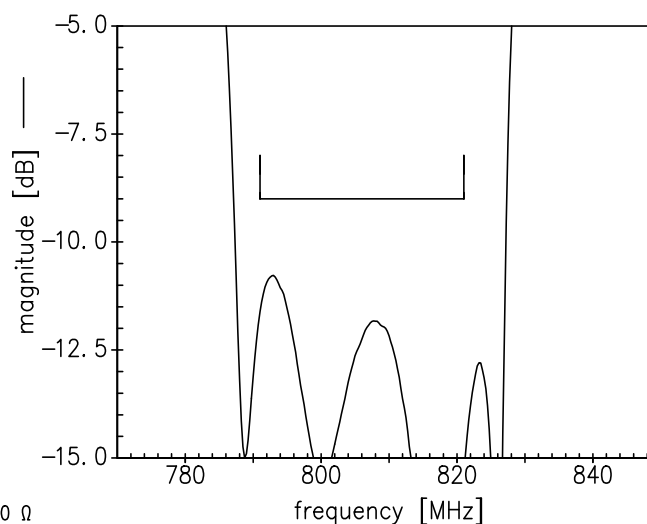
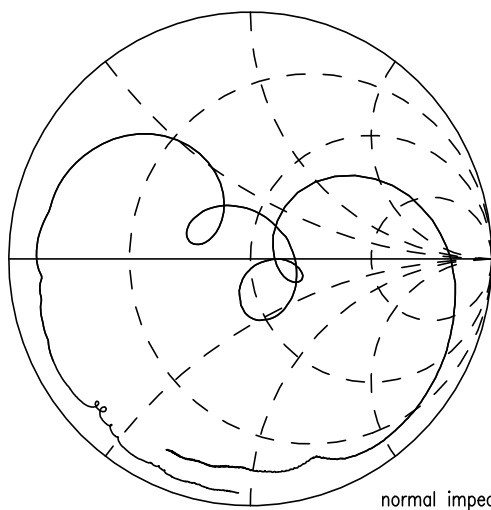


Smith charts

S₁₁ function



S₂₂ function



References

Type	B5131
Ordering code	B39811B5131U410
Marking and package	C61157-A7-A67
Packaging	F61074-V8168-Z000
Date codes	L_1126
S-parameters	B5131_NB.s2p B5131_WB.s2p see file header for port/pin assignment table
Soldering profile	S_6001
RoHS compatible	RoHS-compatible means that products are compatible with the requirements according to Art. 4 (substance restrictions) of Directive 2011/65/EU of the European Parliament and of the Council of June 8th, 2011, on the restriction of the use of certain hazardous substances in electrical and electronic equipment ("Directive") with due regard to the application of exemptions as per Annex III of the Directive in certain cases.
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 for a large variety of matching coils.

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