SAW Components

SAW filter for base station

TD-LTE

Series/type:	**B5154**
Ordering code:	**B39262B5154U410**
Date:	August 30, 2012
Version:	2.0

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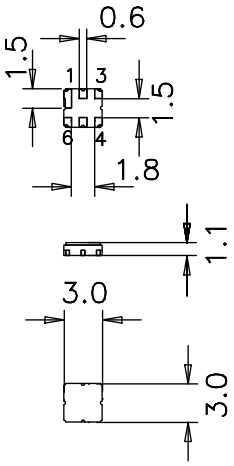
Application

- Low-loss TD-LTE RF filter for base station
- Unbalanced to Unbalanced operation
- Low amplitude ripple
- Usable passband 50 MHz
- No matching required for operation at 50Ω



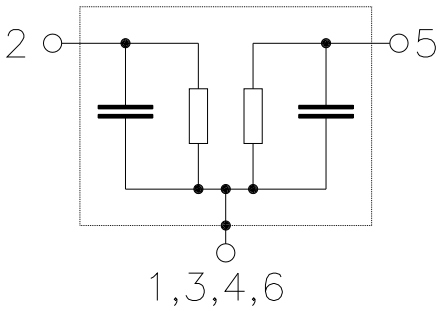
Features

- Package size 3.0 x 3.0 x 1.1 mm³
- Package code DCC6C
- RoHS compatible
- Approximate weight 0.037 g
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)
- Moisture Sensitivity Level 1
- Filter Surface Passivated



Pin configuration

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



Data sheet SMD

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

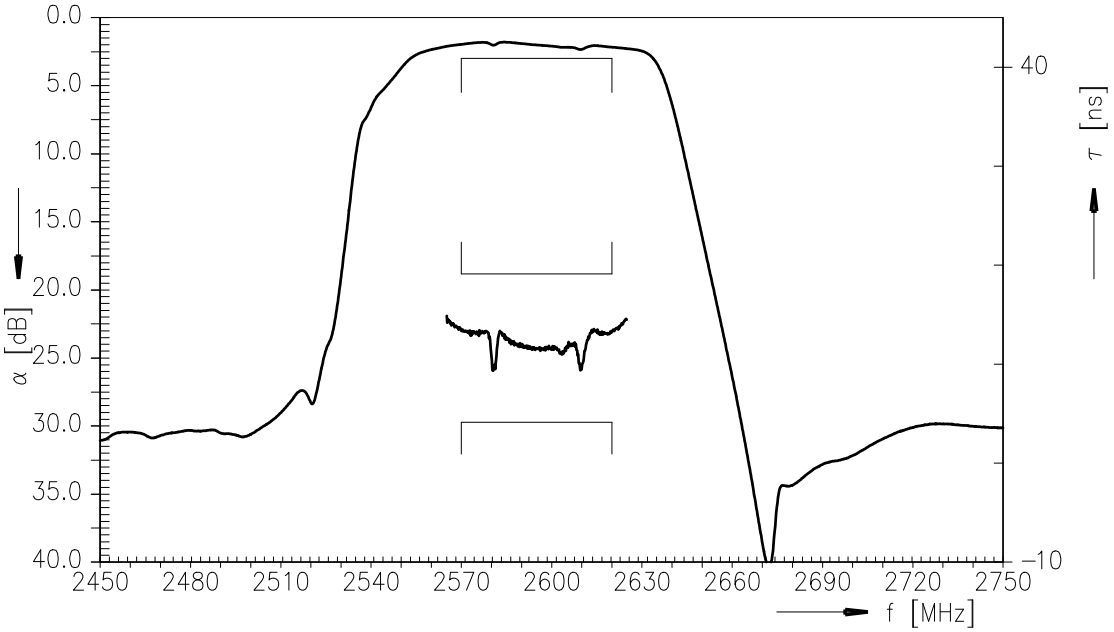
		min.	typ. @ 25 ˚C	max.	
Center frequency	f_C	—	2595.0	—	MHz
Maximum insertion attenuation	α_{max}				
2570.0 ... 2620.0MHz		—	2.6	3.0	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
2570.0 ... 2620.0MHz		—	0.6	1.0	dB
Group delay ripple (p-p)	$\Delta\tau$				
2570.0 ... 2620.0MHz		—	8	15	ns
Absolute group delay	τ				
2570.0 ... 2620.0MHz		—	20	40	ns
VSWR					
2570.0 ... 2620.0 MHz		—	1.8:1	2.0:1	
Attenuation	α_{abs}				
10 ... 2400 MHz		20	30	—	dB
2875 ... 2930 MHz		25	29	—	dB
2930 ... 6000 MHz		10	20	—	dB

Maximum ratings

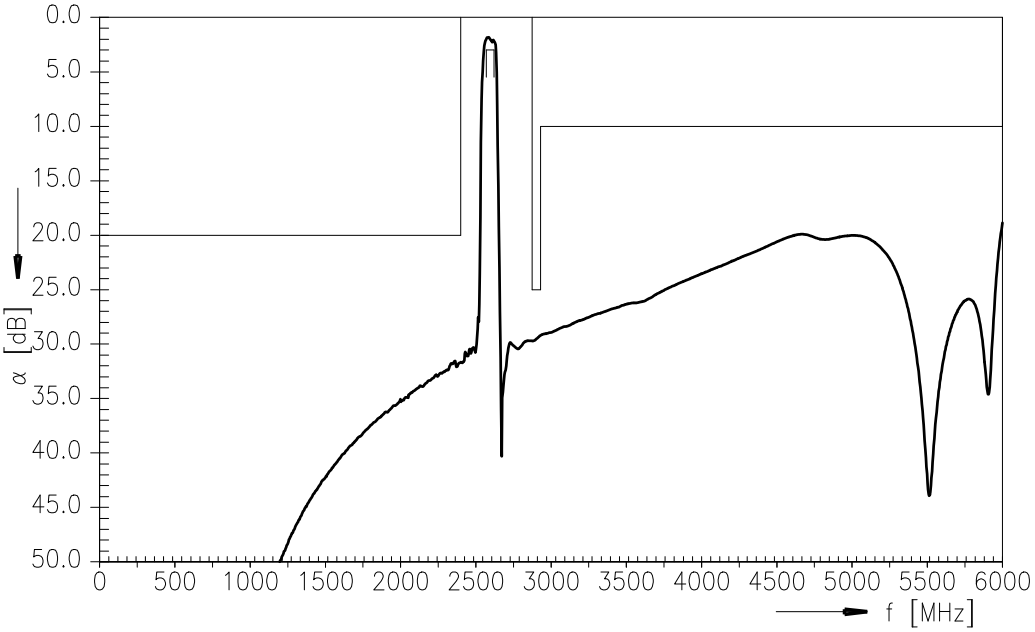
Operable temperature range	T	–40/+85	˚C	
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	0	V	
ESD voltage	V_{ESD}	50[1)]	V	machine model, 10 pulses
Input power at				
2570 ... 2620MHz	P_{IN}	22	dBm	CW signal, 1 minute at 85˚C
		10	dBm	CW signal, 100,000hrs at 85˚C

1) acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.

Transfer function

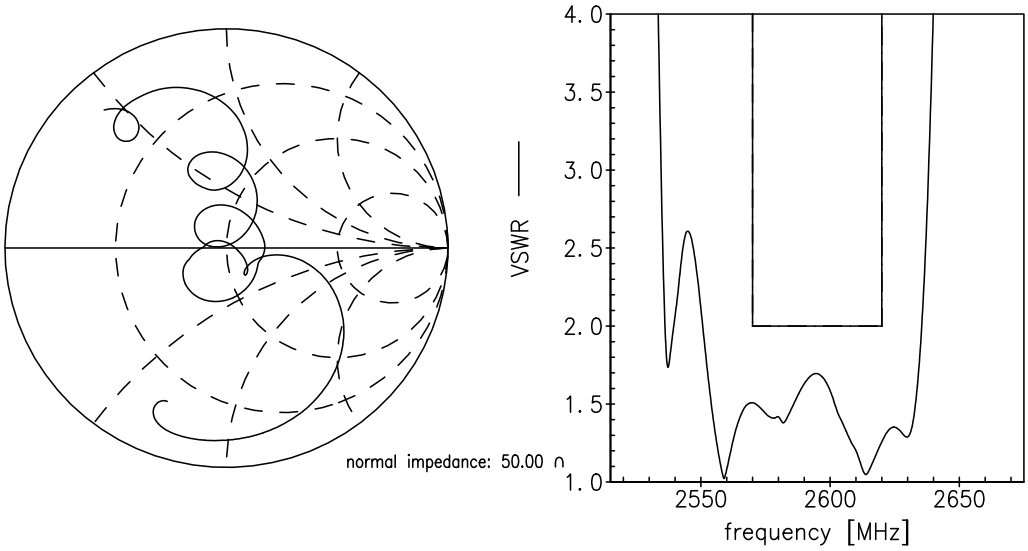


Transfer function (wideband)

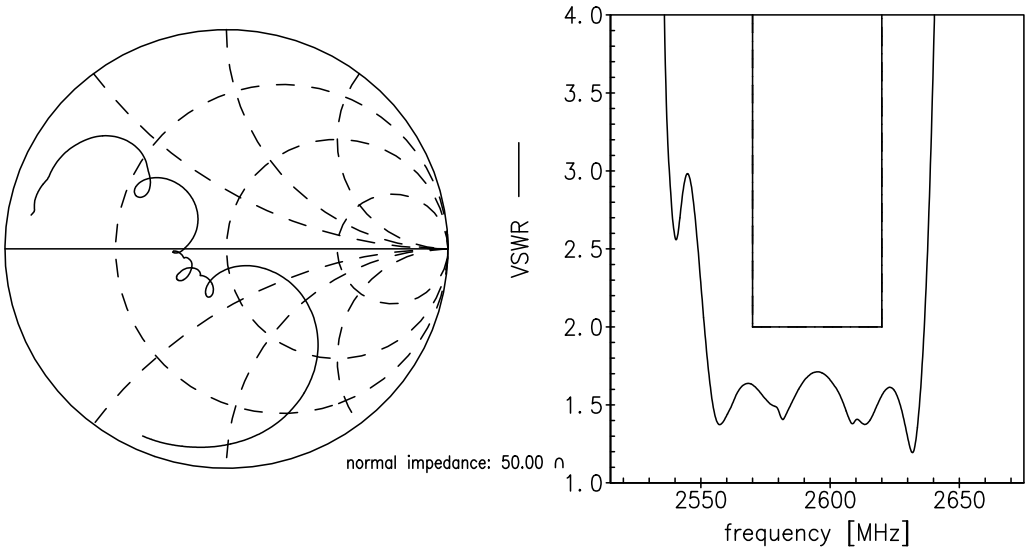


Smith charts

S_{11} function



S_{22} function



References

Type	B5154
Ordering code	B39262B5154U410
Marking and package	C61157-A7-A67
Packaging	F61074-V8168-Z000
Date codes	L_1126
S-parameters	B5154_NB.s2p, B5154_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."
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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