

## SAW Components

### SAW filter

UMTS RF Filter

<b>Series/type:</b>	<b>B3669</b>
<b>Ordering code:</b>	<b>B39212B3669U410</b>

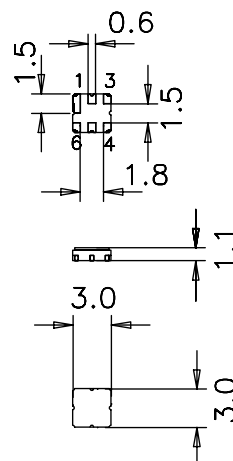
Date:	June 15, 2012
Version:	2.2

**Application**

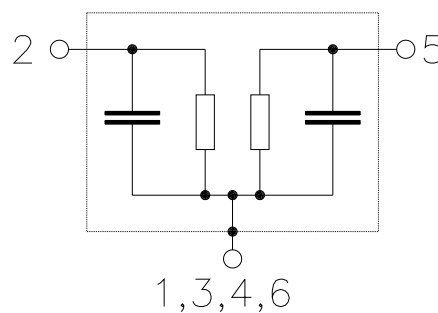
- Low-loss RF filter for UMTS system
- Unbalanced to Unbalanced operation
- Usable passband of 60 MHz
- No matching required for operation at 50Ω


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


**Pin configuration**

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



**SAW Components**
**B3669**
**SAW filter**
**2140.00 MHz**
**Data sheet**

**Characteristics**

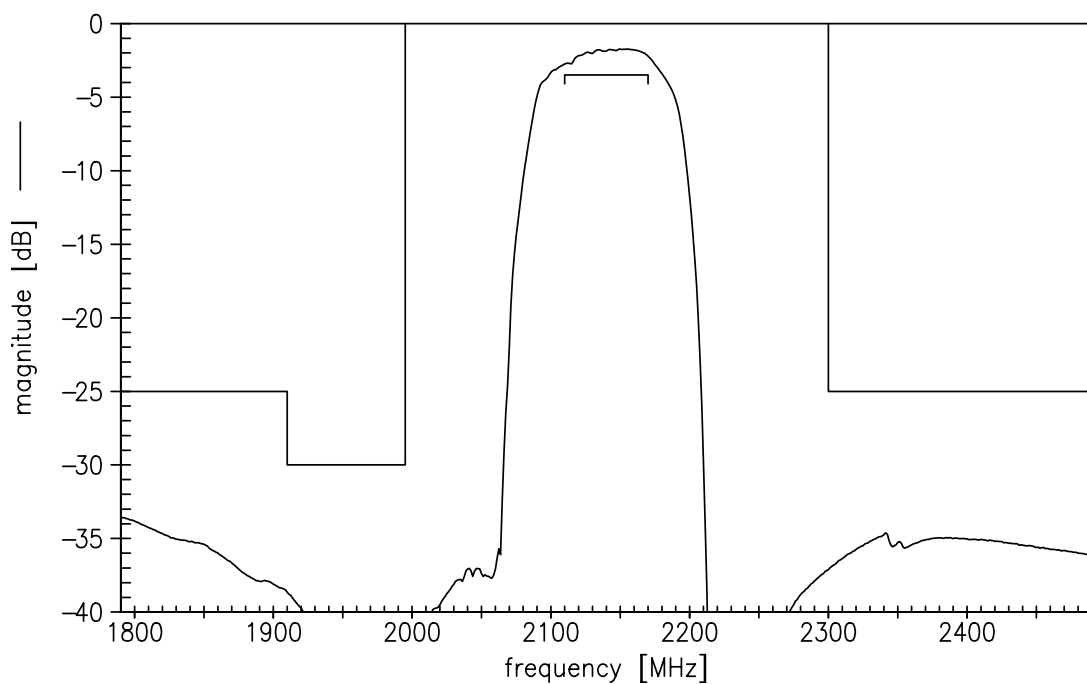
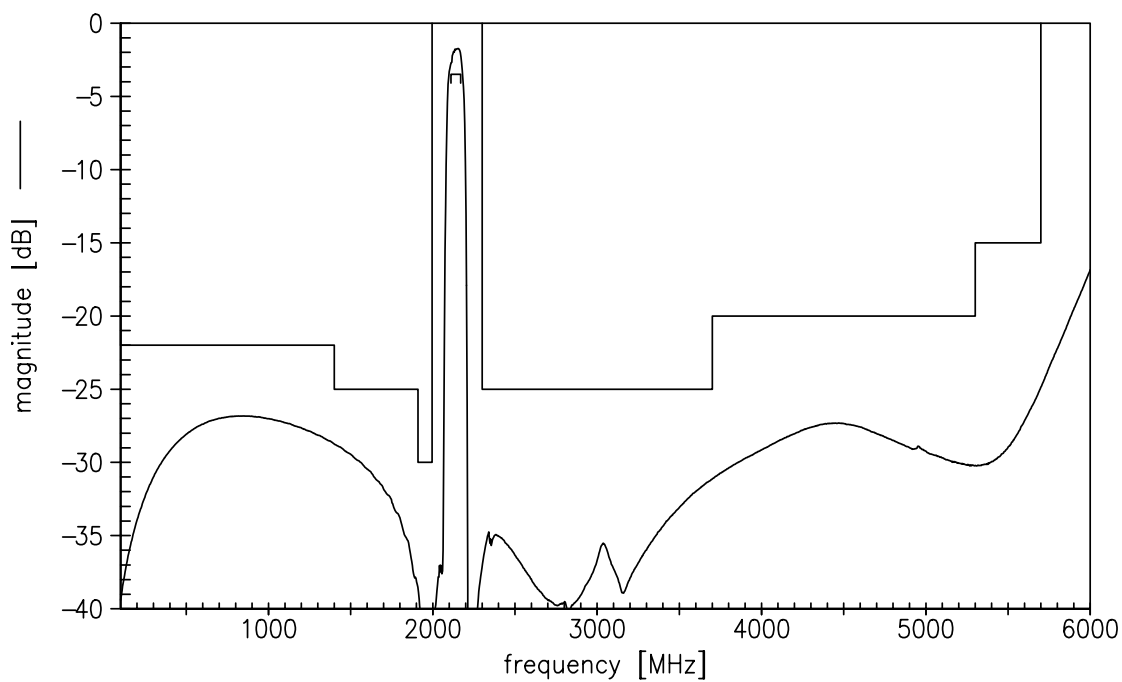
Temperature range for specification:  $T = -40\text{ }^{\circ}\text{C to }+95\text{ }^{\circ}\text{C}$   
 Terminating source impedance:  $Z_S = 50\text{ }\Omega$   
 Terminating load impedance:  $Z_L = 50\text{ }\Omega$

		min.	typ. @ 25 °C	max.	
<b>Centre frequency</b>	$f_C$	—	2140.00	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	3.0	3.5	dB
2110.0 ... 2170.0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	1.0	1.5	dB
2110.0 ... 2170.0 MHz					
<b>Return loss</b>					
Input 2110.0 ... 2170.0 MHz		9.0	11.0	—	dB
Output 2110.0 ... 2170.0 MHz		9.0	11.0	—	dB
<b>Relative attenuation</b>	$\alpha$				
50.0 ... 1400.0 MHz		22.0	27.0	—	dB
1400.0 ... 1910.0 MHz		25.0	28.0	—	dB
1910.0 ... 1995.0 MHz		30.0	38.0	—	dB
2300.0 ... 3700.0 MHz		25.0	30.0	—	dB
3700.0 ... 5300.0 MHz		20.0	25.0	—	dB
5300.0 ... 5700.0 MHz		15.0	18.0	—	dB


**Maximum ratings**

Operable temperature range	T	−40/+95	°C	
Storage temperature range	T <sub>stg</sub>	−40/+95	°C	
DC voltage	V <sub>DC</sub>	0	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>1)</sup>	V	machine model, 1 pulse
Input power				
2110.0 ... 2170.0 MHz	P <sub>IN</sub>	24.5	dBm	continuous wave, 2 hrs, 85°C
2110.0 ... 2170.0 MHz	P <sub>IN</sub>	18.0	dBm	continuous wave, 1000 hrs, 85°C
2110.0 ... 2170.0 MHz	P <sub>IN</sub>	13.0	dBm	continuous wave, 100000 hrs, 85°C
2110.0 ... 2170.0 MHz	P <sub>IN</sub>	24.0	dBm	continuous wave, 2 hrs, 95°C
2110.0 ... 2170.0 MHz	P <sub>IN</sub>	17.0	dBm	continuous wave, 1000 hrs, 95°C
2110.0 ... 2170.0 MHz	P <sub>IN</sub>	12.0	dBm	continuous wave, 100000 hrs, 95°C

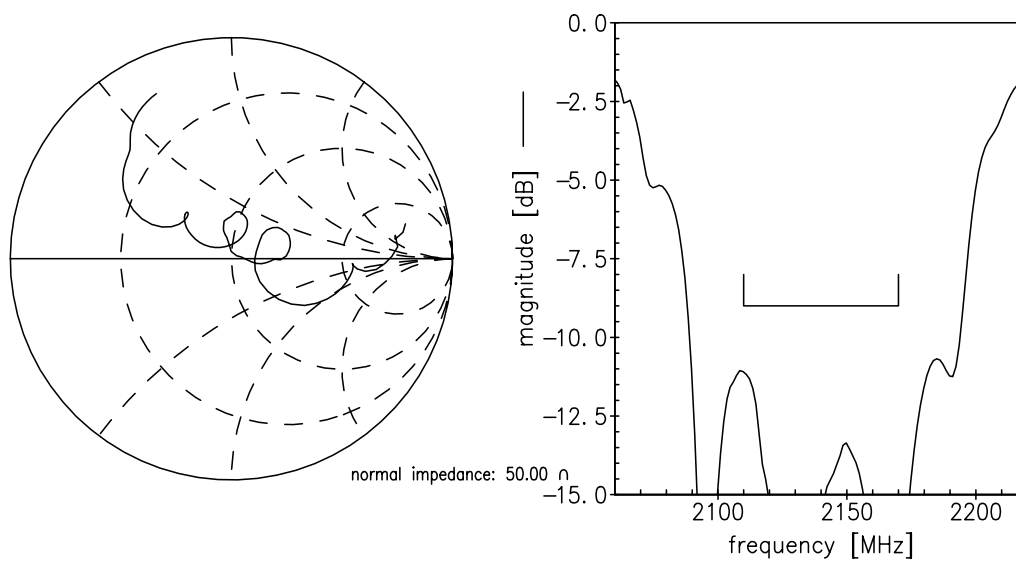
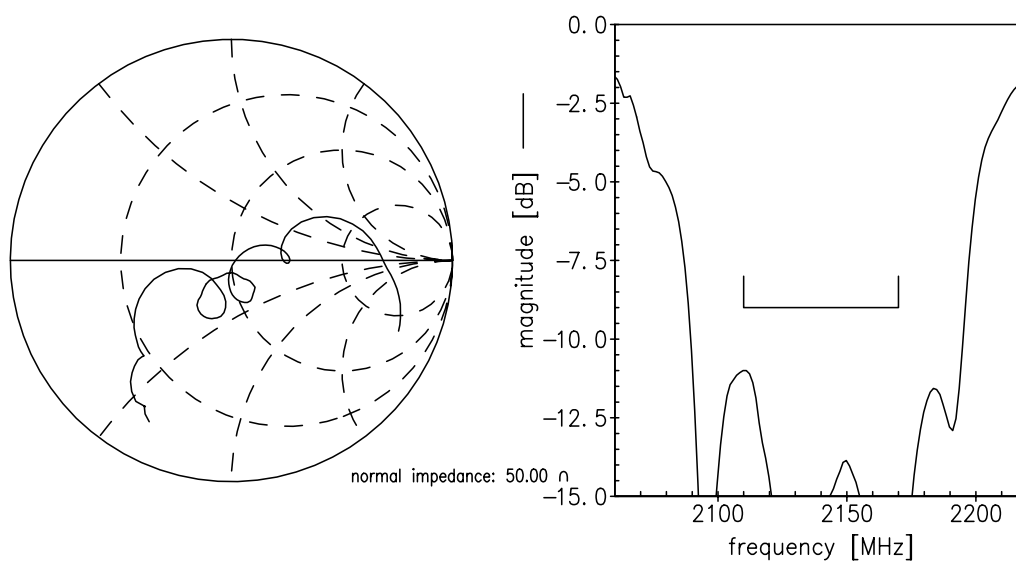
<sup>1)</sup> acc. to JESD22-A115A (machine model), 1 negative & 1 positive pulse.

**Transfer function**

**Transfer function (wideband)**


Data sheet



Smith charts

 $S_{11}$  function

 $S_{22}$  function


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<b>SAW filter</b>	<b>2140.00 MHz</b>

Data sheet



## References

<b>Type</b>	B3669
<b>Ordering code</b>	B39212B3669U410
<b>Marking and package</b>	C61157-A7-A67
<b>Packaging</b>	F61074-V8168-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B3669_NB.s2p, B3669_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."
<b>Matching coils</b>	See Inductor pdf-catalog <a href="http://www.tdk.co.jp/tefe02/coil.htm#aname1">http://www.tdk.co.jp/tefe02/coil.htm#aname1</a> and Data Library for circuit simulation <a href="http://www.tdk.co.jp/etvcl/index.htm">http://www.tdk.co.jp/etvcl/index.htm</a>

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