



# SAW Components

## SAW RF filter

Radiolink

<b>Series/type:</b>	<b>B5156</b>
<b>Ordering code:</b>	<b>B39212B5156U410</b>
<b>Date:</b>	<b>June 29, 2011</b>
<b>Version:</b>	<b>2.0</b>

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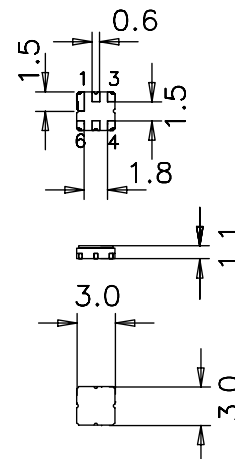
Data sheet


**Application**

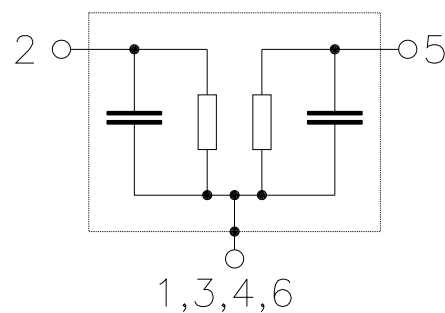
- RF filter for Radiolink-MPR
- Unbalanced to Unbalanced operation
- Low amplitude ripple
- Usable passband of 35 MHz
- No matching required for operation at 50Ω


**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
- Ceramic 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
- 5 Output
- 1,3,4,6 Case grounded



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>	$f_C$	—	2140.0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$				
2122.5 ... 2157.5 MHz		—	2.5	3.0	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
2122.5 ... 2157.5 MHz		—	0.6	1.0	dB
<b>Group delay ripple (p-p)</b>	$\Delta\tau$				
2122.5 ... 2157.5 MHz		—	2	16	ns
<b>Return loss</b>					
Input 2122.5 ... 2157.5 MHz		10	15	—	dB
Output 2122.5 ... 2157.5 MHz		10	14	—	dB
<b>Attenuation</b>	$\alpha$				
1.0 ... 2000.0 MHz		35	47	—	dB
2280.0 ... 3000.0 MHz		35	39	—	dB

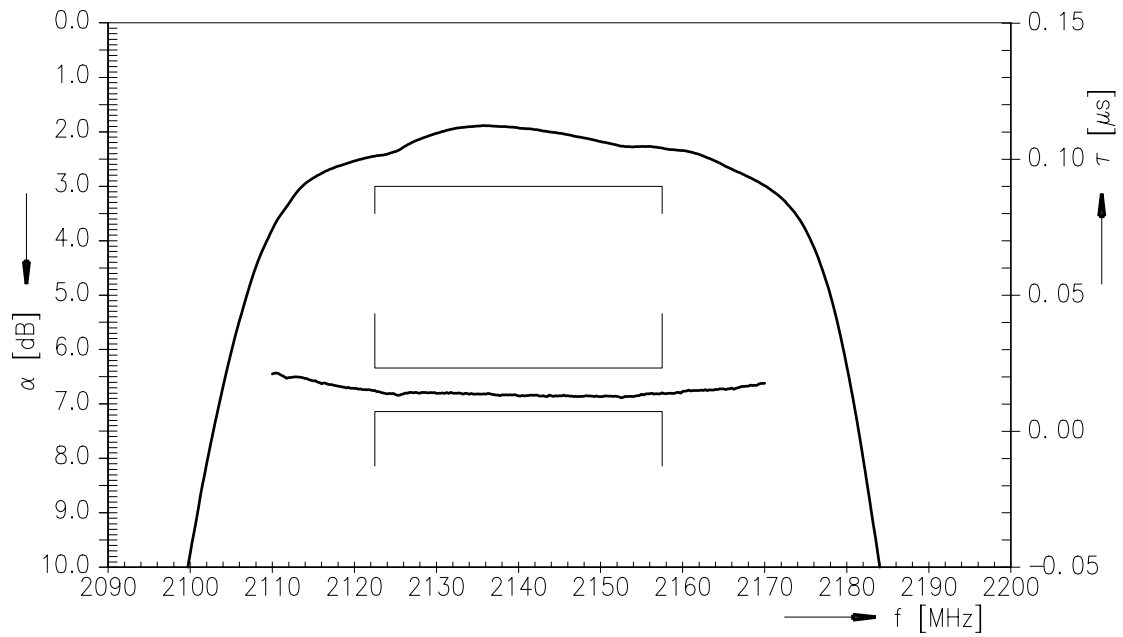

**Maximum ratings**

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>	50 <sup>1)</sup>	V	machine model, 1 pulse
Input power at 2122.5 ... 2157.5 MHz	P <sub>IN</sub>	7	dBm	10000hrs , Continuous wave +85 °C

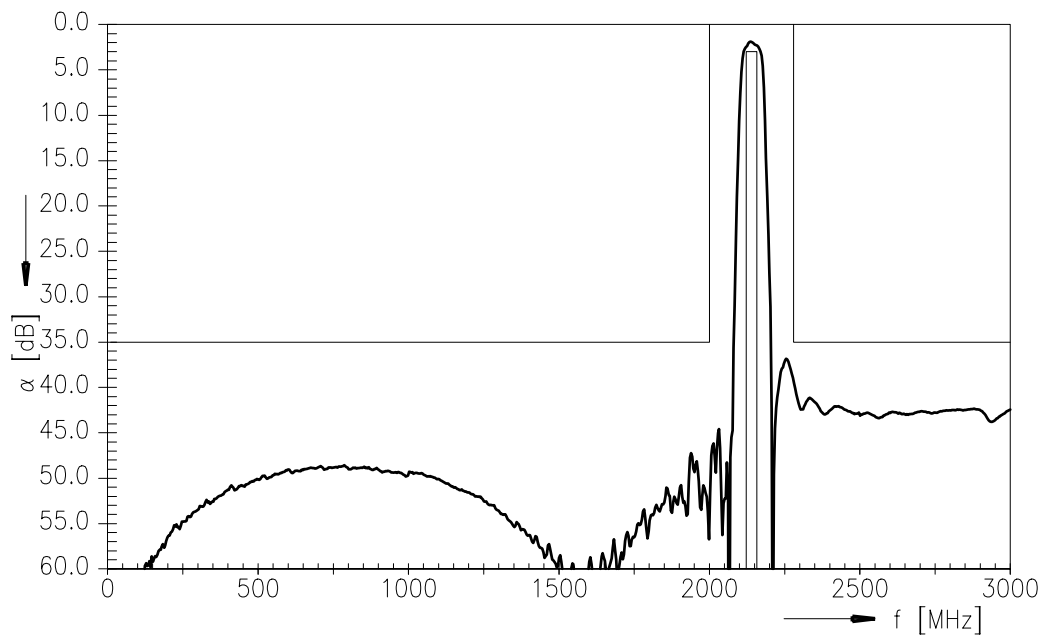
<sup>1)</sup> acc. to JESD22-A115A (machine model), 1 negative & 1 positive pulse.



Transfer function (narrow band)



Transfer function (wideband)

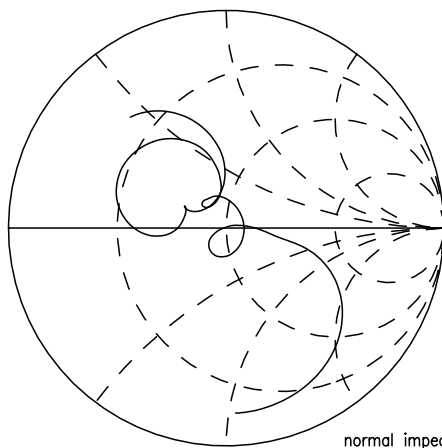


Data sheet

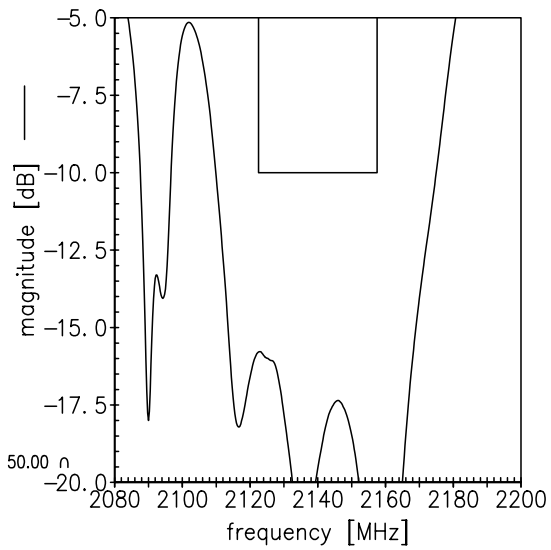


Smith charts

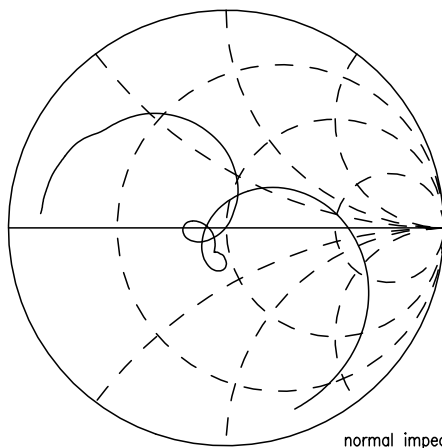
S<sub>11</sub> function



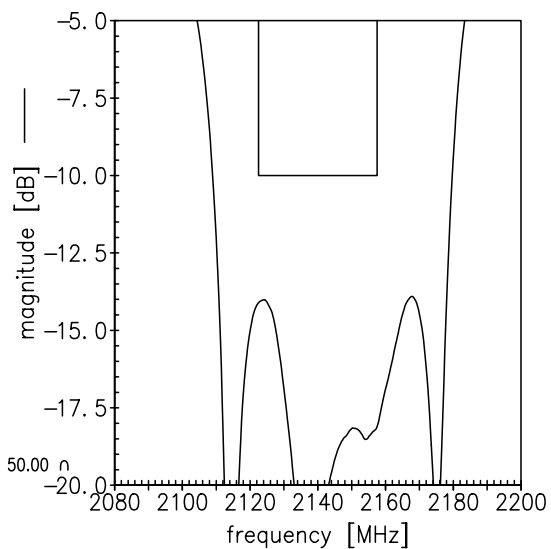
normal impedance: 50.00  $\Omega$



S<sub>22</sub> function



normal impedance: 50.00  $\Omega$



<b>SAW Components</b>	<b>B5156</b>
<b>SAW RF filter</b>	<b>2140.00 MHz</b>

Data sheet



## References

<b>Type</b>	B5156
<b>Ordering code</b>	B39212B5156U410
<b>Marking and package</b>	C61157-A7-A67
<b>Packaging</b>	F61074-V8168-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B5156_NB.s2p B5156_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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