



## **SAW Components**

### **SAW RF low loss filter**

Satellite CSS

<b>Series/type:</b>	<b>B1654</b>
<b>Ordering code:</b>	<b>B39132-B1654-B510</b>
<b>Date:</b>	<b>January 11, 2011</b>
<b>Version:</b>	<b>2.1</b>



## SAW Components

B1654

### SAW RF low loss filter

1280.18 MHz

#### Data sheet



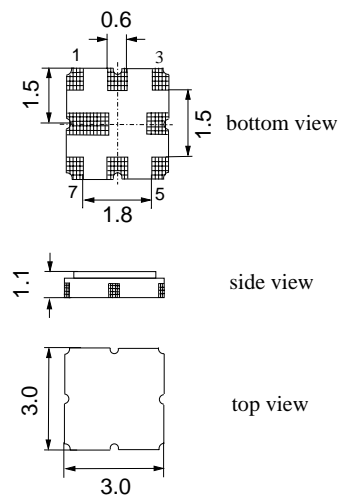
#### Application

- Low loss RF filter for satellite CSS
- Usable passband 40.0 MHz
- Balanced to balanced operation



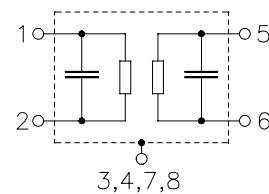
#### Features

- Package size 3.0 x 3.0 x 1.1 mm<sup>3</sup>
- Maximum height of 1.225 mm
- Package code QCC8F
- RoHS compatible
- Approximate weight 0.037 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**



#### Pin configuration

- 1 Input
- 2 Input
- 5 Output
- 6 Output
- 3,7 To be grounded
- 4,8 Case ground





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#### Characteristics

Temperature range for specification:

$T = -40\text{ °C to }+85\text{ °C}$

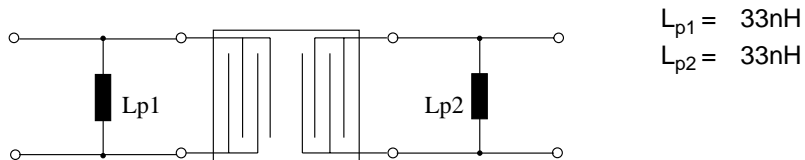
Terminating source impedance:

$Z_S = 150\ \Omega$  (balanced) and matching network

Terminating load impedance:

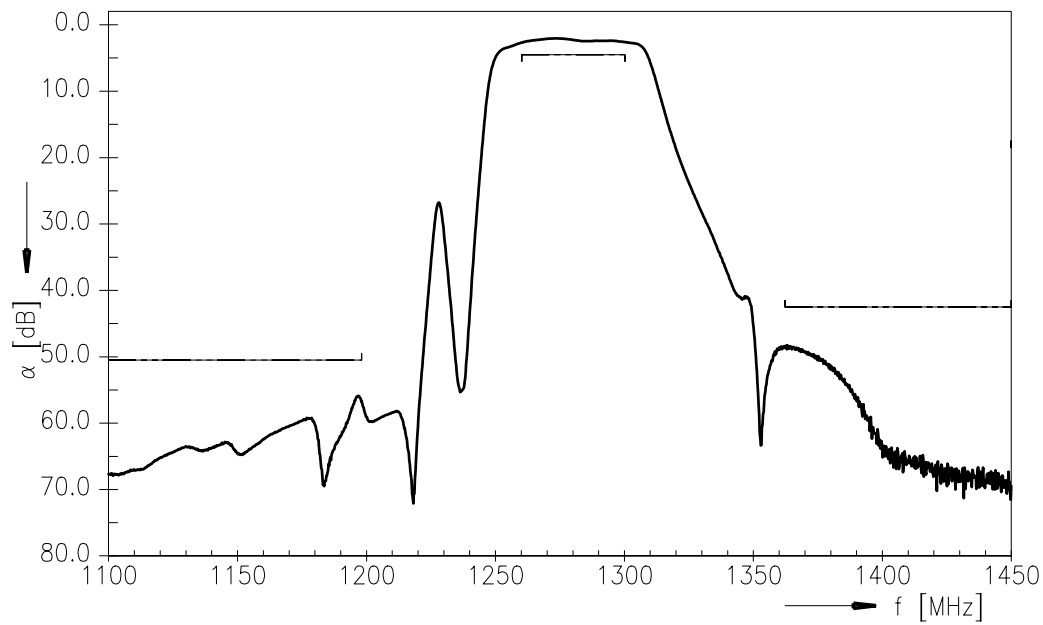
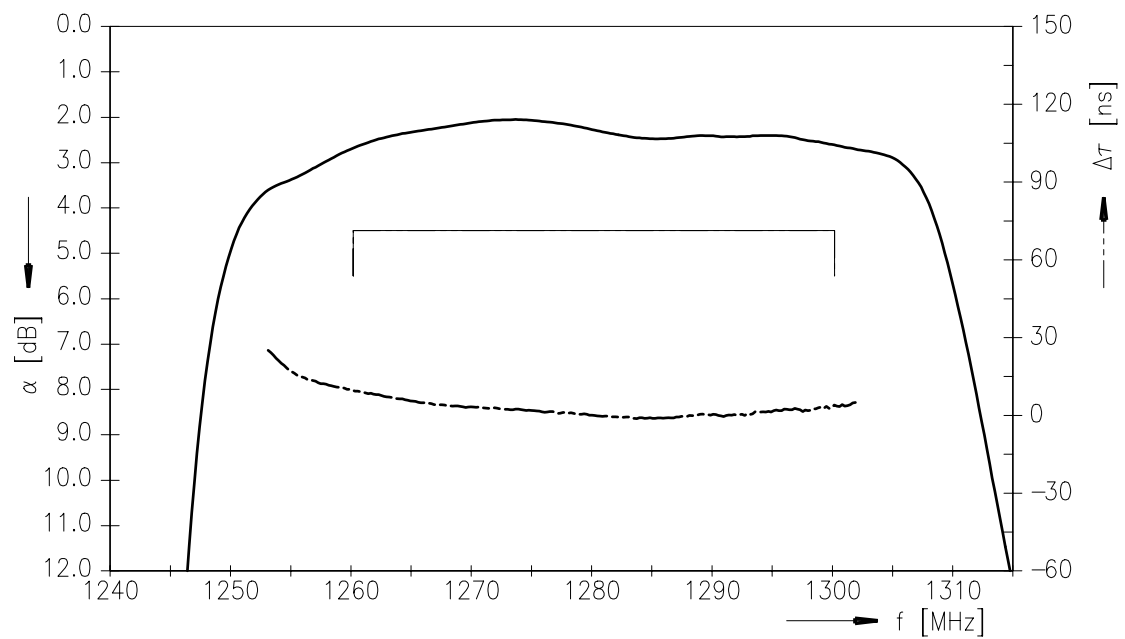
$Z_L = 150\ \Omega$  (balanced) and matching network

		min.	typ. @ 25 °C	max.	
<b>Nominal frequency</b>	$f_N$	—	1280.18	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	3.3	4.5	dB
1260.18 ... 1300.18 MHz					
<b>Pass bandwidth</b>		—	54.0	—	MHz
$\alpha_{\text{rel}} \leq 1.5\text{ dB}$	$B_{1.5\text{ dB}}$				
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	1.2	2.0	dB
1260.18 ... 1300.18 MHz					
<b>Input return loss</b>		8.0	12.5	—	dB
<b>Output return loss</b>		8.0	12.5	—	dB
<b>Group delay ripple (p-p)</b>	$\Delta\tau$	—	15.0	40.0	ns
1260.18 ... 1300.18 MHz					
<b>Differential to common mode ratio</b>		25.0	31.0	—	dB
$( S_{dd21}/S_{cd21} )$					
1260.18 ... 1300.18 MHz					
<b>Deviation from linear phase (rms)</b>		—	5.0	8.0	°
in any 30 MHz band					
1260.18 ... 1300.18 MHz					
<b>Relative attenuation</b>	$\alpha$	46.0	53.0	—	dB
50.00 ... 1198.12 MHz					
1362.24 ... 2000.00 MHz		40.0	45.0	—	dB
2000.00 ... 6000.00 MHz		25.0	45.0	—	dB

**SAW Components****B1654****SAW RF low loss filter****1280.18 MHz****Data sheet****Matching network** (element values depend on PCB layout)**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 1260.18...1300.18 MHz	P <sub>IN</sub>	0	dBm	source impedance 150 Ω

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

**SAW Components****B1654****SAW RF low loss filter****1280.18 MHz****Data sheet****Transfer function****Transfer function (passband)**

Please read *cautions and warnings* and *important notes* at the end of this document.

**SAW Components****B1654****SAW RF low loss filter****1280.18 MHz**

Data sheet

**References**

<b>Type</b>	B1654
<b>Ordering code</b>	B39132-B1654-B510
<b>Marking and package</b>	C61157-A7-A72
<b>Packaging</b>	F61074-V8168-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B1654_NB.s4p B1654_WB.s4p 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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Please read *cautions and warnings* and *important notes* at the end of this document.



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