



# SAW Components

## SAW RF low loss filter

Satellite CSS

<b>Series/type:</b>	<b>B1677</b>
<b>Ordering code:</b>	<b>B39122B1677B510</b>
<b>Date:</b>	<b>June 10, 2013</b>
<b>Version:</b>	<b>2.0</b>

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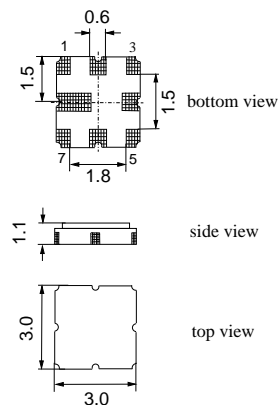
**Datasheet**

**Application**

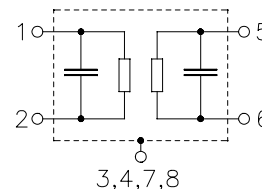
- Low loss RF filter for satellite CSS
- Usable passband 60.0 MHz
- Balanced to balanced operation


**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, to be grounded



<b>SAW Components</b>	<b>B1677</b>
<b>SAW RF low loss filter</b>	<b>1210.0 MHz</b>

Datasheet

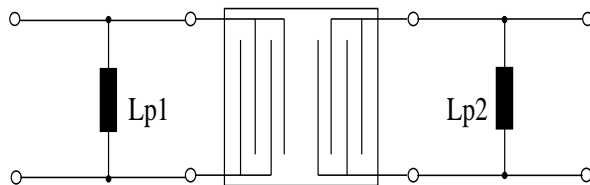


**Characteristics**

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>	$f_N$	—	1210.0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$				
1180.0 ... 1240.0 MHz		—	4.2	5.5	dB
<b>Pass bandwidth</b>					
$\alpha_{\text{rel}} \leq 1.5\text{ dB}$	$B_{1.5\text{ dB}}$	—	77.0	—	MHz
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
1180.0 ... 1240.0 MHz		—	1.3	2.5	dB
<b>Input return loss</b>		6.0	8.0	—	dB
<b>Output return loss</b>		7.5	10.0	—	dB
<b>Group delay ripple (p-p)</b>	$\Delta\tau$				
1180.0 ... 1240.0 MHz		—	20.0	40.0	ns
<b>CMDR</b>					
1180.0 ... 1240.0 MHz		22.0	30.0	—	dB
<b>Deviation from linear phase (rms)</b>					
in any 30 MHz band					
1180.0 ... 1240.0 MHz		—	4.0	6.0	°
<b>Attenuation</b>	$\alpha$				
50.0 ... 960.0 MHz		45	50	—	dB
960.0 ... 1120.0 MHz		40	47	—	dB
1315.0 ... 2500.0 MHz		38	43	—	dB
2500.0 ... 3200.0 MHz		38	42	—	dB
3200.0 ... 6000.0 MHz		22	27	—	dB

**Datasheet**

**Matching network** (element values depend on PCB layout)


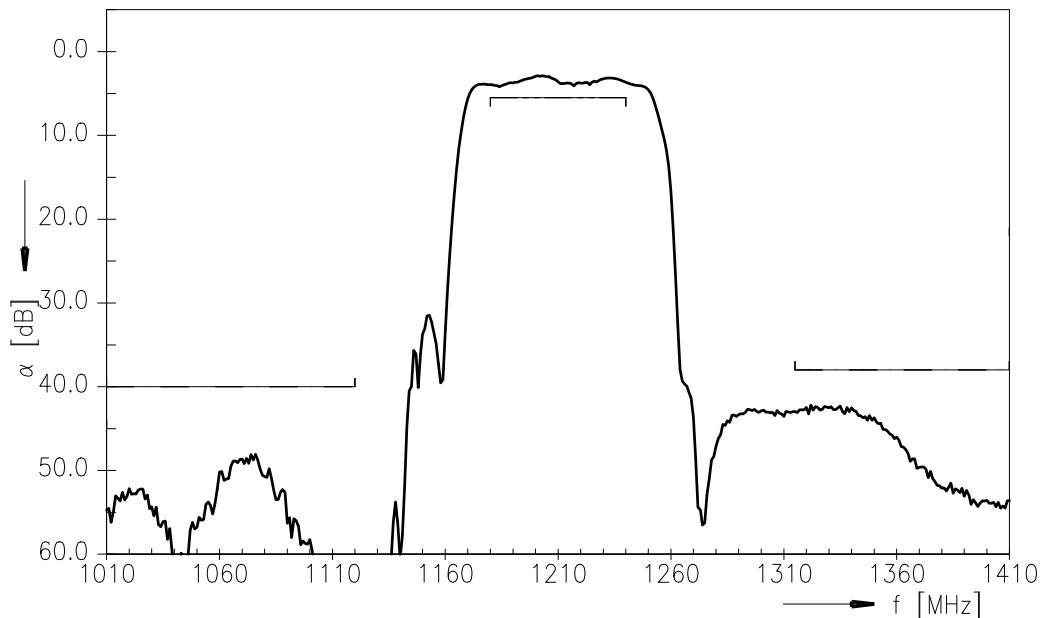
$$L_{p1} = 15 \text{ nH}$$

$$L_{p2} = 12 \text{ nH}$$

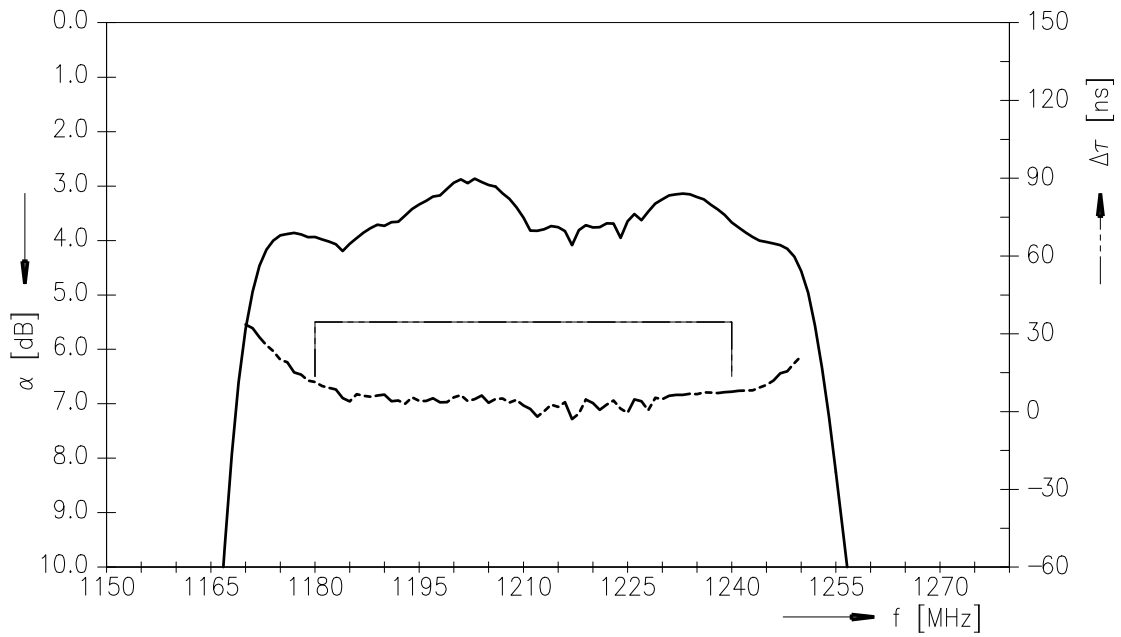
**Maximum ratings**

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 1180.0... 1240.0 MHz	P <sub>IN</sub>	0	dBm	source impedance 150 Ω

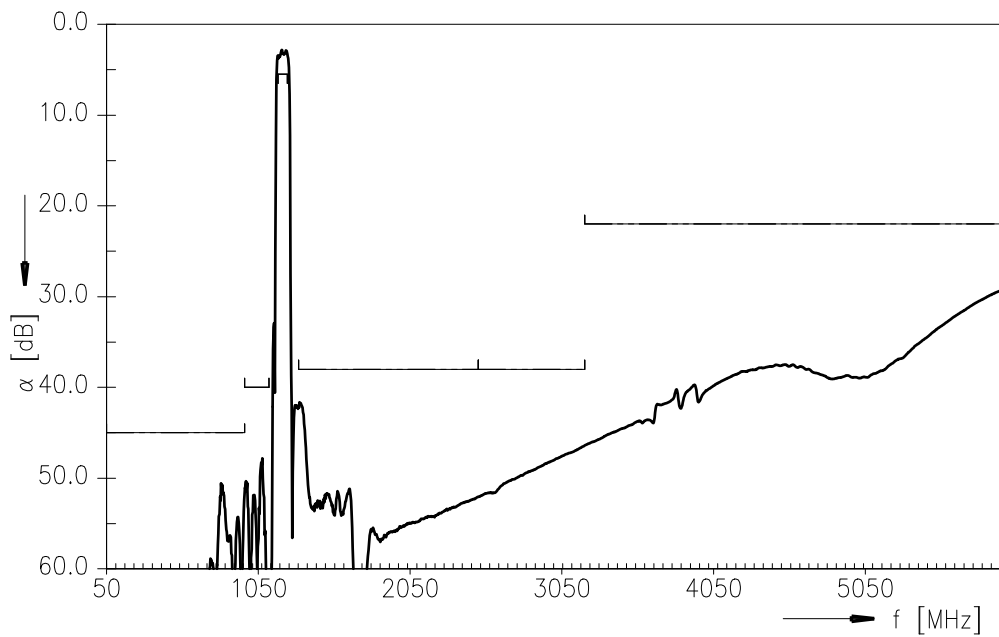
<sup>1)</sup> acc. to JESD22-A115A (machine model), 1 negative & 1 positive pulses.

**Transfer function S<sub>dd21</sub>**


Transfer function  $S_{dd21}$  (passband)



Transfer function  $S_{dd21}$  (wideband)



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Datasheet



## References

<b>Type</b>	B1677
<b>Ordering code</b>	B39122B1677B510
<b>Marking and package</b>	C61157-A7-A72
<b>Packaging</b>	F61074-V8168-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B1677_NB.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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