



## **SAW Components**

### **SAW IF filter**

Basestation

<b>Series/type:</b>	<b>B5229</b>
<b>Ordering code:</b>	<b>B39151B5229Z510</b>
<b>Date:</b>	<b>Mar 08, 2010</b>
<b>Version:</b>	<b>2.0</b>



Data sheet



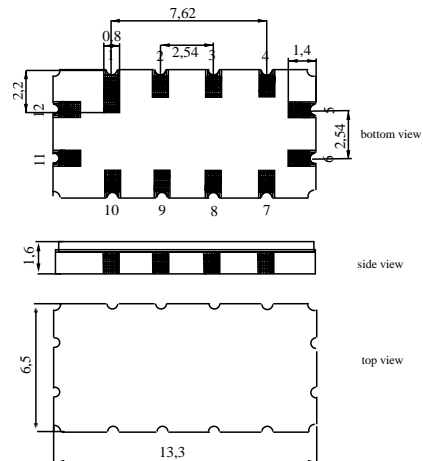
**Application**

- Low-loss IF filter for basestation
- Usable passband 30.5 MHz



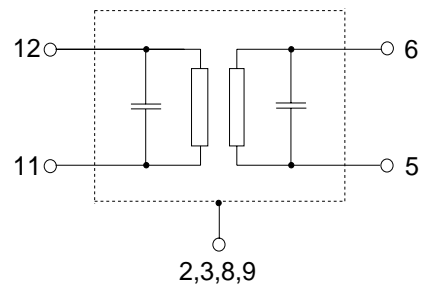
**Features**

- Package size 13.3 x 6.5 x 1.6 mm<sup>3</sup>
- Package code QCC12
- RoHS compatible
- Approx. weight 0.44g
- Ceramic package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**
- Filter Surface Passivated



**Pin configuration**

- 11 Input
- 12 Input ground or return
- 5 Output
- 6 Output ground or return
- 1,4,7,10 To be grounded
- 2,3,8,9 Case ground





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145.0 MHz

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Characteristics

Operating temperature range:  $T = -40$  to  $85$  °C  
 Terminating source impedance:  $Z_S = 50 \Omega$  and matching network  
 Terminating load impedance:  $Z_L = 50 \Omega$  and matching network

		min.	typ. @ 25 °C	max.	
<b>Nominal frequency</b>	$f_N$	—	145.0	—	MHz
<b>Minimum insertion attenuation</b> (including matching network)	$\alpha_{min}$	—	8.9	10.0	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
$f_N - 15.25$ MHz ... $f_N + 14.45$ MHz		—	0.8	1.0	dB
$f_N + 14.45$ MHz ... $f_N + 15.25$ MHz		—	1.0	1.3	dB
<b>Group delay ripple (p-p)</b>	$\Delta\tau$				
$f_N \pm 15.25$ MHz		—	55.0	100	ns
<b>Absolute group delay</b>					
$f_N \pm 15.25$ MHz	$\tau$	—	0.592	1.0	$\mu$ s
<b>Phase ripple (p-p)</b>					
$f_N \pm 15.25$ MHz	$\Delta\phi$	—	10.4	13.0	°
<b>Relative attenuation (relative to <math>\alpha_{min}</math>)</b>	$\alpha_{rel}$				
100 MHz ... 115 MHz		40.0	50.0	—	dB
115 MHz ... 120 MHz		30.0	40.0	—	dB
170 MHz ... 175 MHz		30.0	40.0	—	dB
175 MHz ... 250 MHz		40.0	45.0	—	dB
250 MHz ... 300 MHz		40.0	48.0	—	dB
<b>Return loss, input</b>	$f_N \pm 15.25$ MHz	8.0	10.3	—	dB
<b>Return loss, output</b>	$f_N \pm 15.25$ MHz	9.0	13.6	—	dB
<b>Temperature coefficient of frequency<sup>1)</sup></b>	$TC_f$		-74		ppm/K

<sup>1)</sup> Temperature dependance of  $f_c$ :  $f_c(T_A) = f_c(T_0) (TC_f(T_A))$



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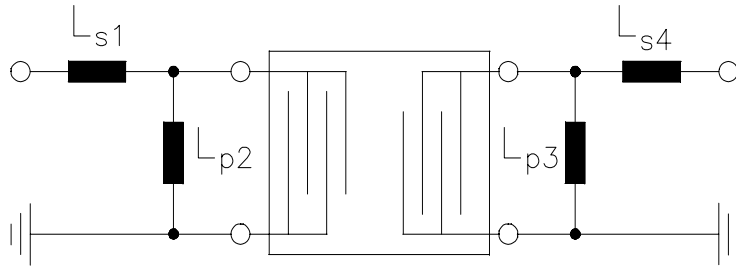
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Matching network to 50 Ω single ended / 50 Ω single ended



$L_{s1} = 56 \text{ nH}$   
 $L_{p2} = 56 \text{ nH}$   
 $L_{p3} = 39 \text{ nH}$   
 $L_{s4} = 47 \text{ nH}$

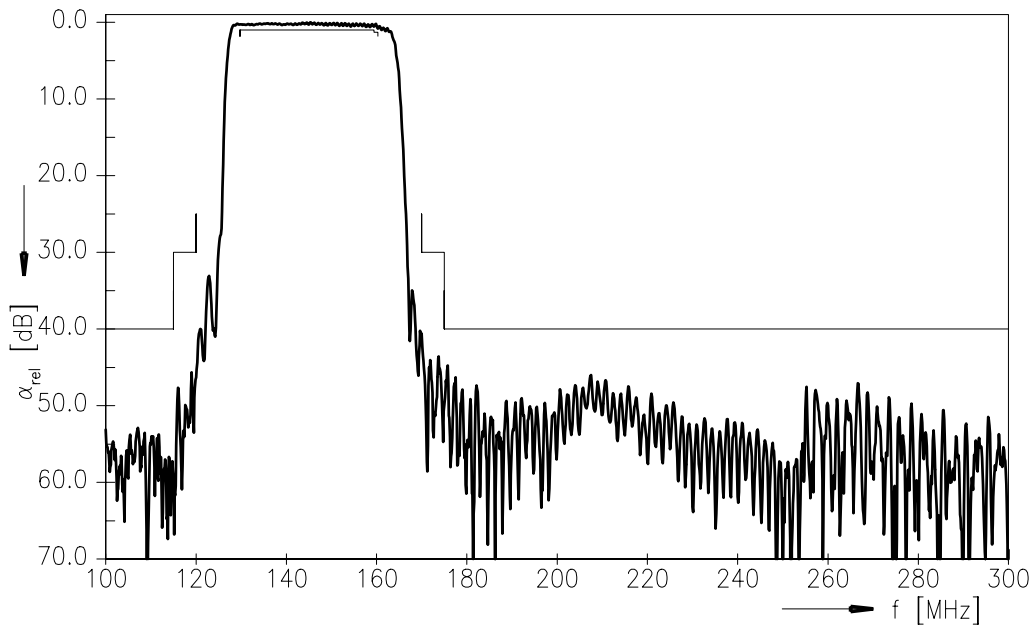
(Element values depend upon PCB layout)

**Maximum ratings**

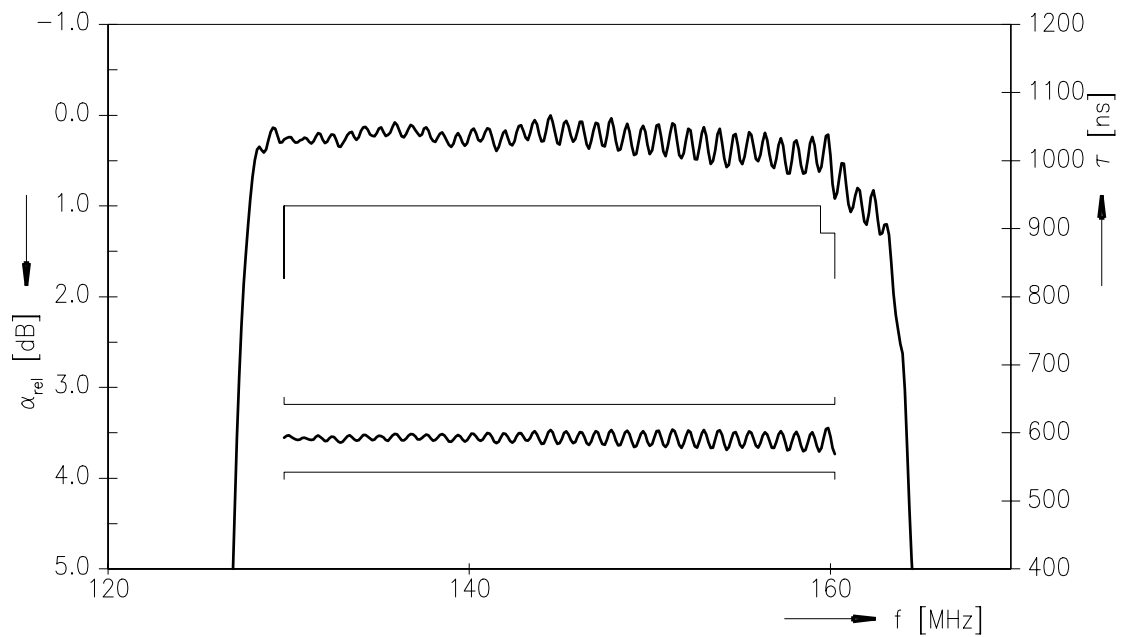
Operable temperature range	T	-40/+85	°C	
Storage temperature range	T <sub>sta</sub>	-40/+85	°C	
DC voltage	V <sub>DC</sub>	0	V	
Input power	P <sub>IN</sub>	20	dBm	



Transfer function



Transfer function (Passband)





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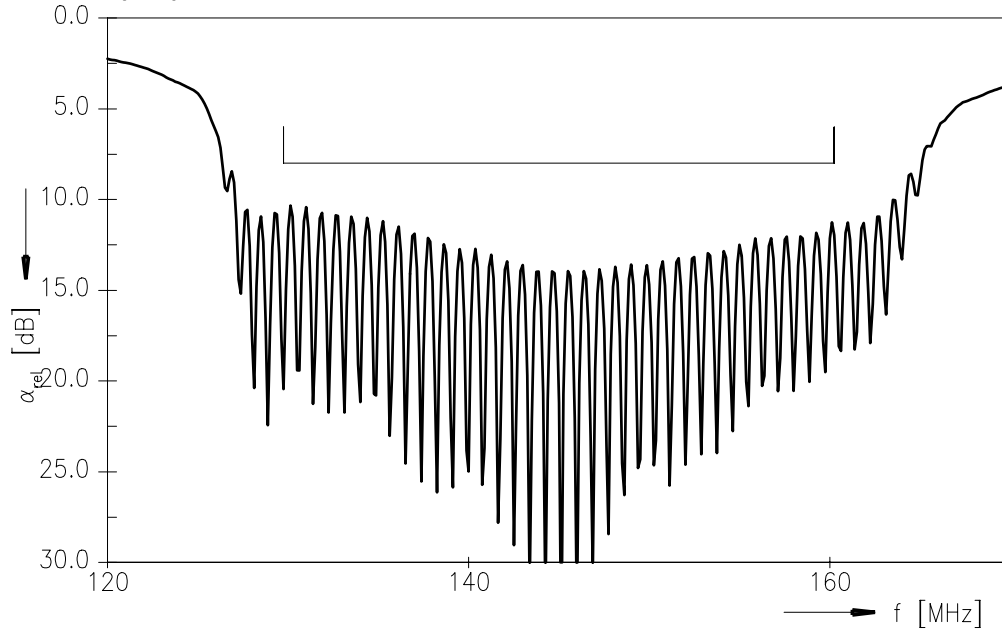
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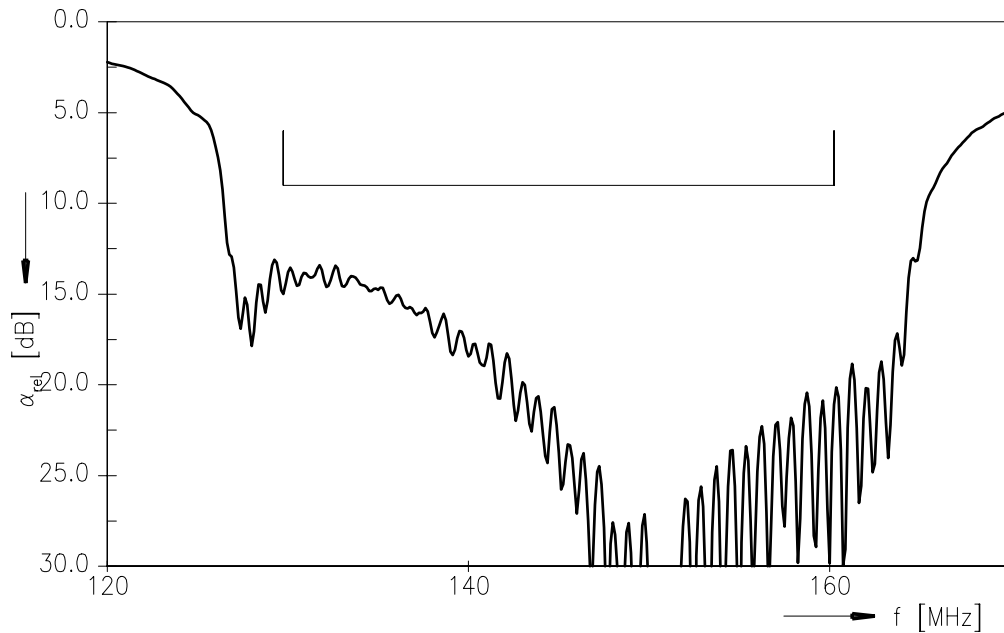
Data sheet



Return loss (S11)



Return loss (S22)



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



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## References

<b>Type</b>	B5229
<b>Ordering code</b>	B39151B5229Z510
<b>Marking and package</b>	C61157-A7-A55
<b>Packaging</b>	F61074-V8163-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B5229_NB.s2p, B5229_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."

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