



## SAW Components

### SAW filter

WiMAX

**Series/type:** B4070  
**Ordering code:** B39811B4070U410

**Date:** February 07, 2006  
**Version:** 2.1

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B4070

SAW filter

810.00 MHz

Data Sheet

SMD

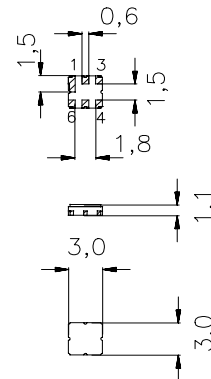
### Application

- Low-loss IF filter for WiMAX systems
- Low amplitude ripple
- No matching required for operation at 50 Ω
- Usable passband 10 MHz



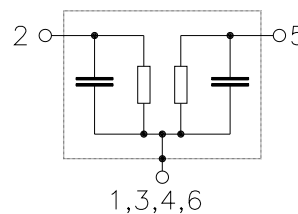
### Features

- Package size 3.0 x 3.0 x 1.1 mm<sup>3</sup>
- Package code DCC6C
- RoHS compliant
- Approx. weight 0.037 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**



### Pin configuration

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





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**Characteristics**

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

		min.	typ. @ 25°C	max.	
<b>Center frequency</b>	$f_C$	—	810.0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$	—	2.5	3.0 <sup>1)</sup>	dB
805.0 ... 815.0 MHz					
<b>Aplitude ripple (p-p)</b>	$\Delta\alpha$	—	0.5	1.0	dB
805.0 ... 815.0 MHz					
<b>Group Delay ripple (p-p)</b>	$\Delta\tau$	—	40	100	ns
805.0 ... 815.0 MHz					
<b>Input return loss</b>		10.0	12.0	—	dB
805.0 ... 815.0 MHz					
<b>Output return loss</b>		10.0	13.0	—	dB
805.0 ... 815.0 MHz					
<b>Attenuation</b>	$\alpha$				
500.0 ... 780.0 MHz		25	35	—	dB
860.0 MHz		50	55	—	
1500.0 ... 2500.0 MHz		20	27	—	
<b>Temperature coefficient of frequency</b>	$TC_f$	—	-36	—	ppm/K

<sup>1)</sup> 2.7 dB max. at 25°C.



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### 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>	3	V	
ESD voltage	V <sub>ESD</sub>	100 <sup>1)</sup>	V	machine model, 10 pulses
Input Power at 805.0...815.0MHz	P <sub>IN</sub>	5	dBm	continuous wave

<sup>1)</sup> acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.



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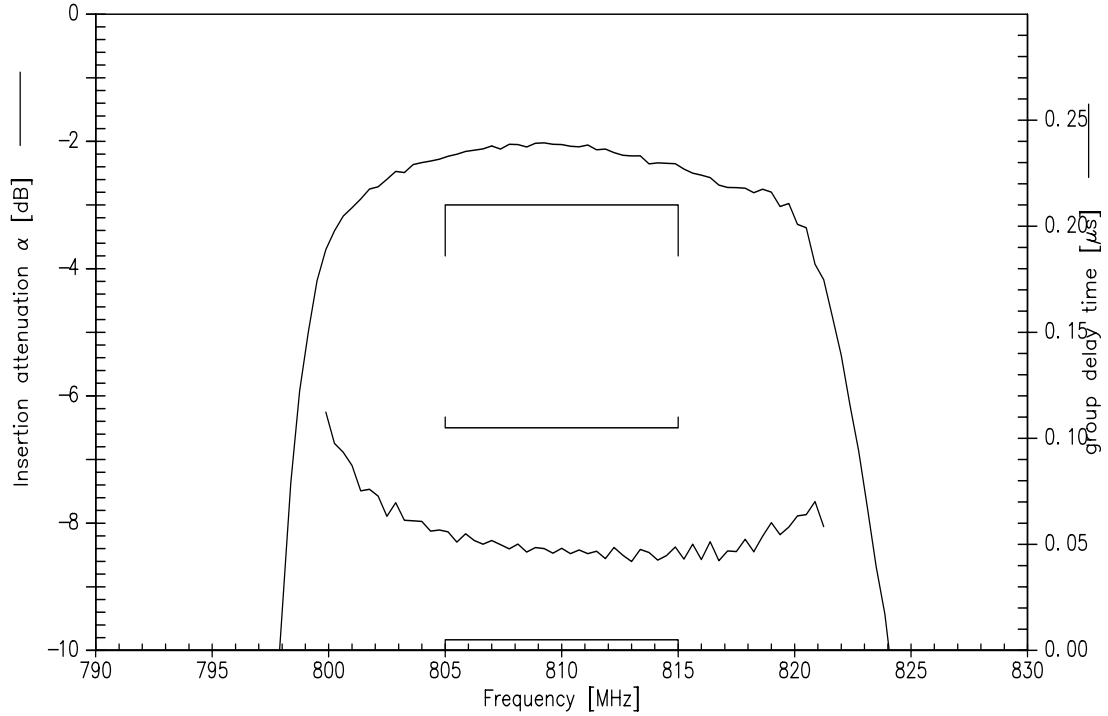
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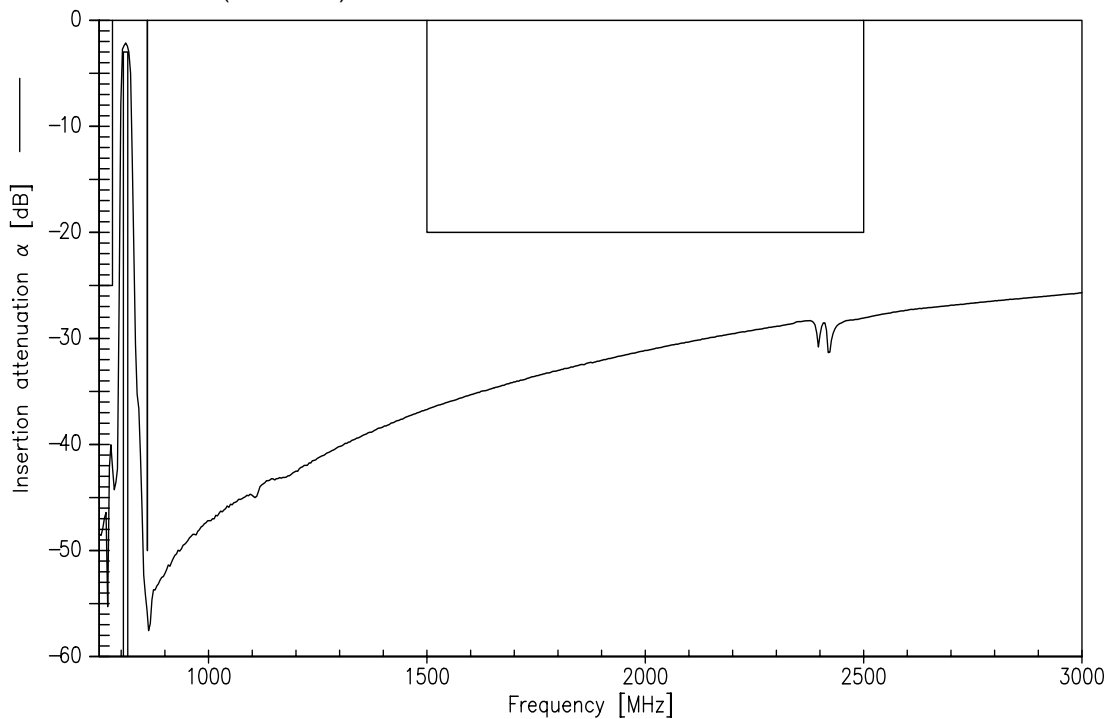
Data Sheet

SMD

### Transfer function



### Transfer function (wideband)



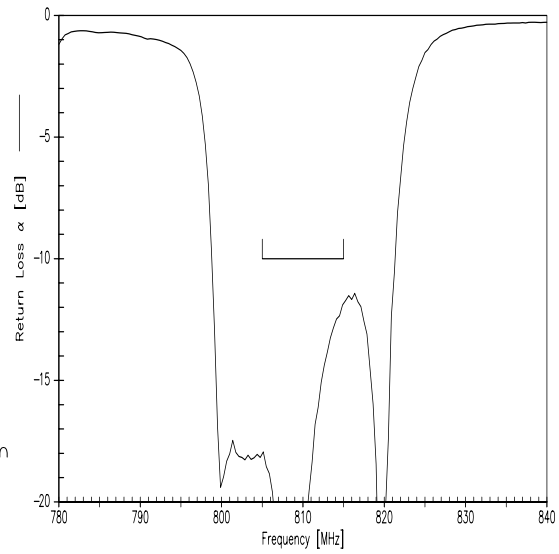
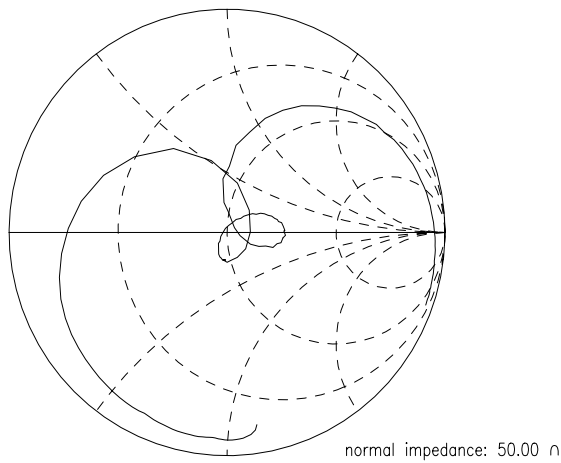


Data Sheet

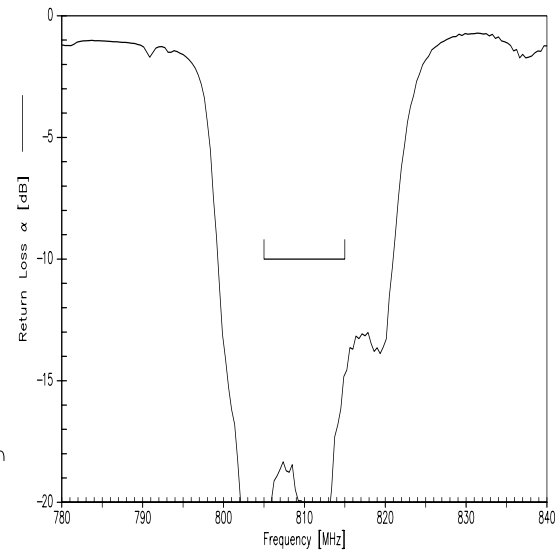
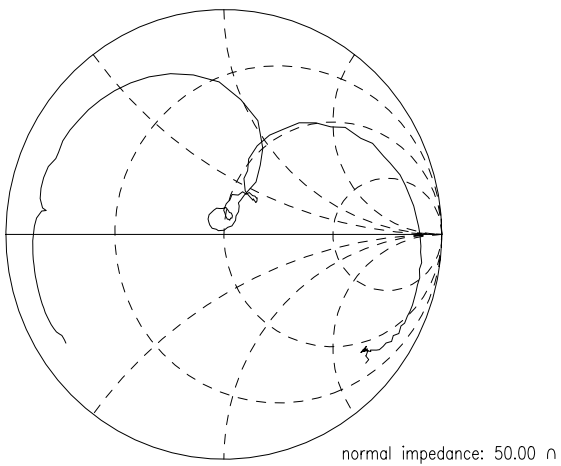


Smith charts

$S_{11}$  function



$S_{22}$  function





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## References

<b>Type</b>	B4070
<b>Ordering code</b>	B39811B4070U410
<b>Marking and package</b>	C61157-A7-A67
<b>Packaging</b>	F61074-V8168-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B4070_NB.s3p B4070_WB.s3p
<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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**Published by EPCOS AG**  
**Surface Acoustic Wave Components Division**  
**P.O. Box 80 17 09, 81617 Munich, GERMANY**

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