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## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





## **SAW Components**

### **SAW Rx Filter**

GPS

<b>Series/Type:</b>	<b>B7839</b>
<b>Ordering code:</b>	<b>B39162-B7839-K410</b>
<b>Date:</b>	<b>Nov 16, 2005</b>
<b>Version:</b>	<b>2.1</b>



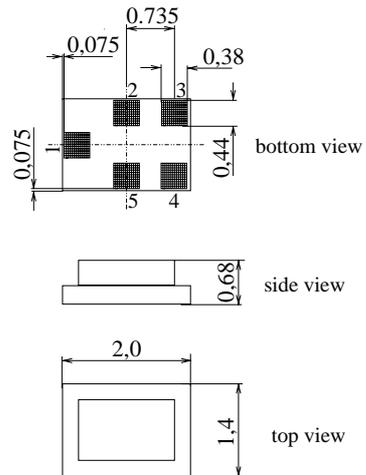
**Application**

- Low-loss RF filter for GPS
- Unbalanced to unbalanced operation
- Very low insertion attenuation



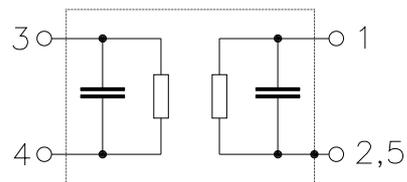
**Features**

- Package size 2.0 x 1.4 x 0.68 mm<sup>3</sup>
- Package code QCS5E
- RoHS compliant
- Approx. weight 0.007 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals



**Pin configuration**

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





**SAW Components**

**B7839**

**Low-Loss Filter for Mobile Communication**

**1575.42 MHz**

**Data Sheet**



**Characteristics**

Operating temperature range:  $T = -30\text{ °C} \dots +85\text{ °C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$   
 Terminating load impedance:  $Z_L = 50\ \Omega$

		<b>B7839</b>			
		<b>min.</b>	<b>typ. @ 25 °C</b>	<b>max.</b>	
<b>Nominal frequency</b>	$f_N$	—	1575.42	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$				
1574.42 ... 1576.42MHz		—	0.75	1.1	dB
1574.42 ... 1576.42MHz		—	0.75	1.0	dB <sup>1)</sup>
<b>Amplitude ripple in passband (p-p)</b>	$\Delta\alpha$				
1574.42 ... 1576.42MHz		—	0.05	0.3	dB
<b>Attenuation</b>	$\alpha$				
0.1 ... 960.0 MHz		38	41	—	dB
960.0 ... 1460.0 MHz		35	40	—	dB
1460.0 ... 1513.0 MHz		22	29	—	dB
1645.4 ... 1710.0 MHz		23	28	—	dB
1710.0 ... 1990.0 MHz		35	40	—	dB
1990.0 ... 4000.0 MHz		30	35	—	dB
4000.0 ... 6000.0 MHz		20	28	—	dB
<b>VSWR</b>					
1574.42 ... 1576.42MHz		—	1.1	1.8	

<sup>1)</sup> 0 °C ... +55 °C

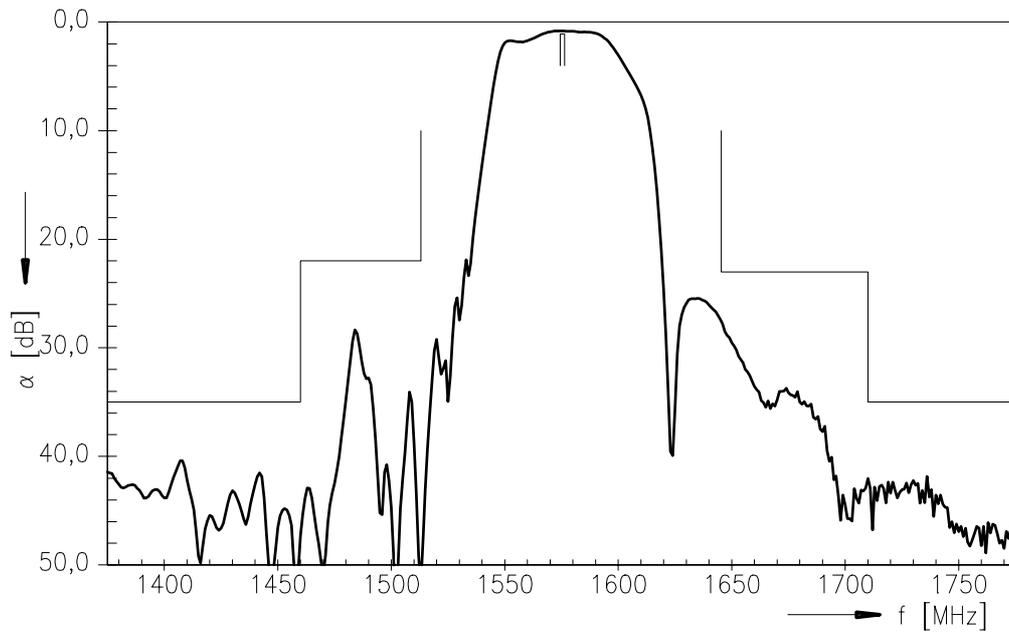
**Maximum ratings**

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>	50 <sup>1)</sup>	V	machine model, 10 pulses
Input Power at				
1574.42 ... 1576.42 MHz	P <sub>IN</sub>	3	dBm	source and load impedance 50 Ω
50.0...1460 and 1710 ... 4000 MHz	P <sub>IN</sub>	25	dBm	continuous wave signal

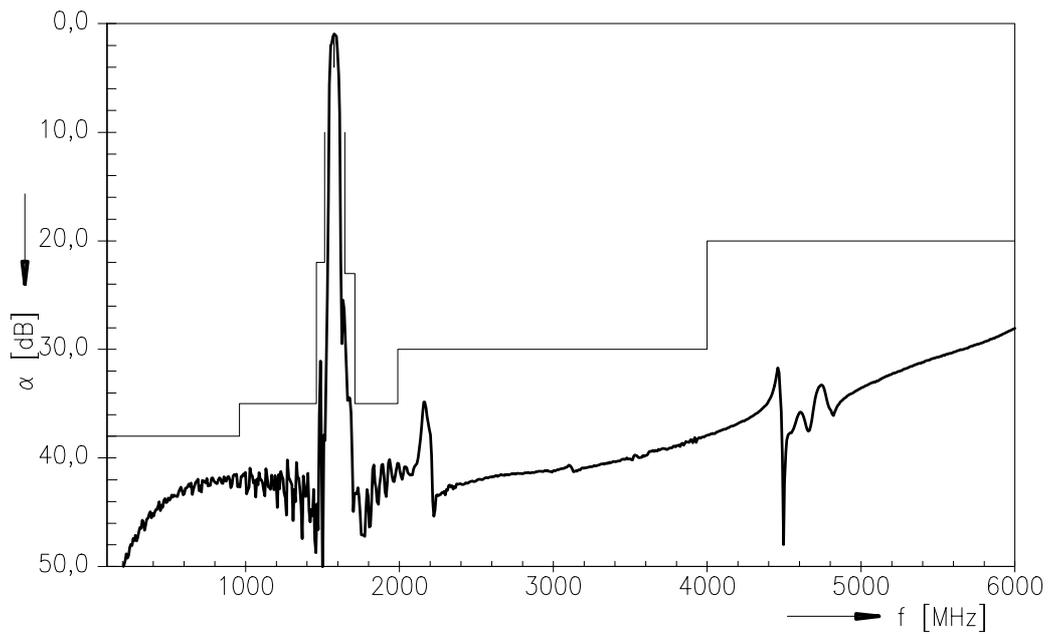
<sup>1)</sup> acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.



Transfer function

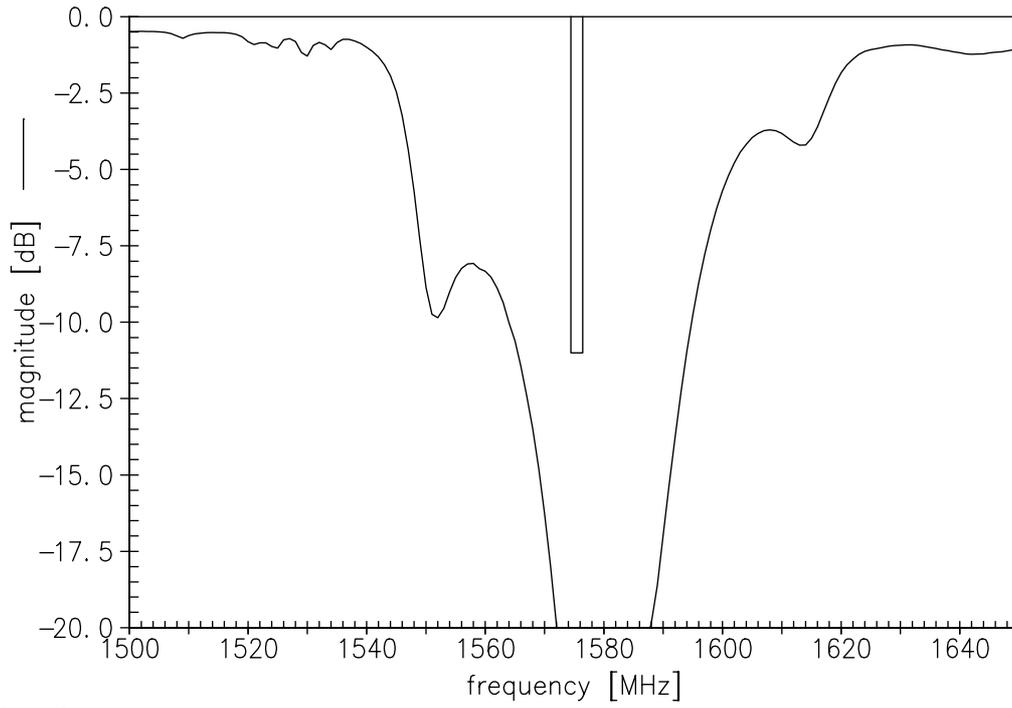


Transfer function (wideband)

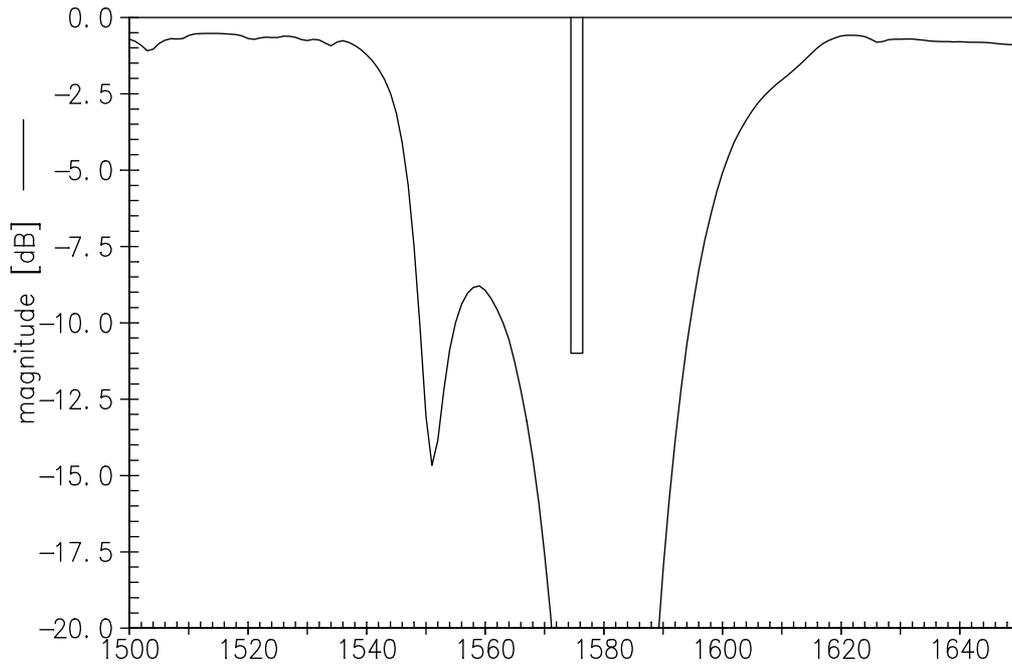




**S<sub>11</sub> function**



**S<sub>22</sub> function**





**SAW Components**

**B7839**

**Low-Loss Filter for Mobile Communication**

**1575.42 MHz**

Data Sheet



<b>Type</b>	B7839	
<b>Ordering code</b>	B39162-B7839-K410	
<b>Marking and Package</b>	C61157-A7-A131	
<b>Packaging</b>	F61074-V8151-Z000	
<b>Date Codes</b>	L_1126	
<b>S-Parameters</b>	B7839_NB.s3p B7839_WB.s3p	
<b>Soldering profile</b>	S_6001	

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