



## **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>               |



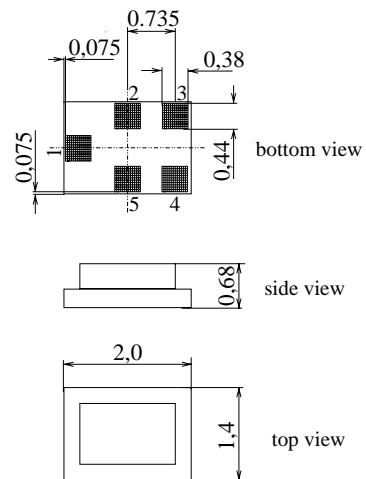
**Application**

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



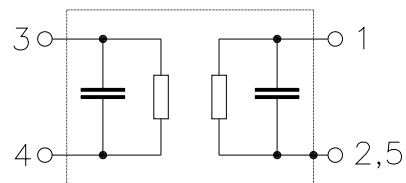
**Features**

- 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.<br/>@ 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

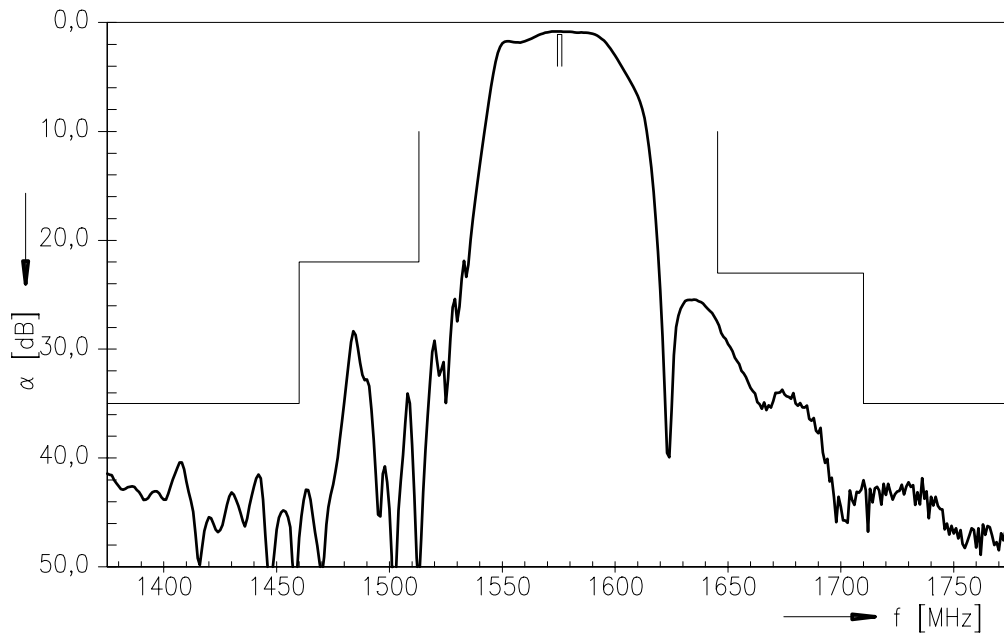
**Maximum ratings**

|                                      |                  |                  |     |                                |
|--------------------------------------|------------------|------------------|-----|--------------------------------|
| 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<br>1710 ... 4000 MHz | P <sub>IN</sub>  | 25               | dBm | continuous wave signal         |

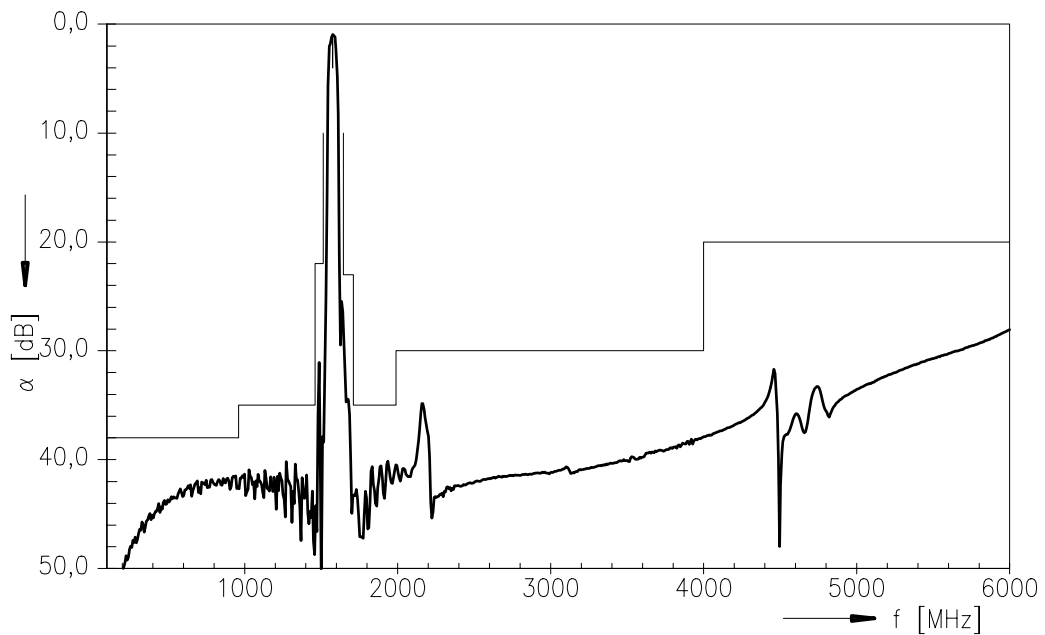
<sup>1)</sup> acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.



Transfer function

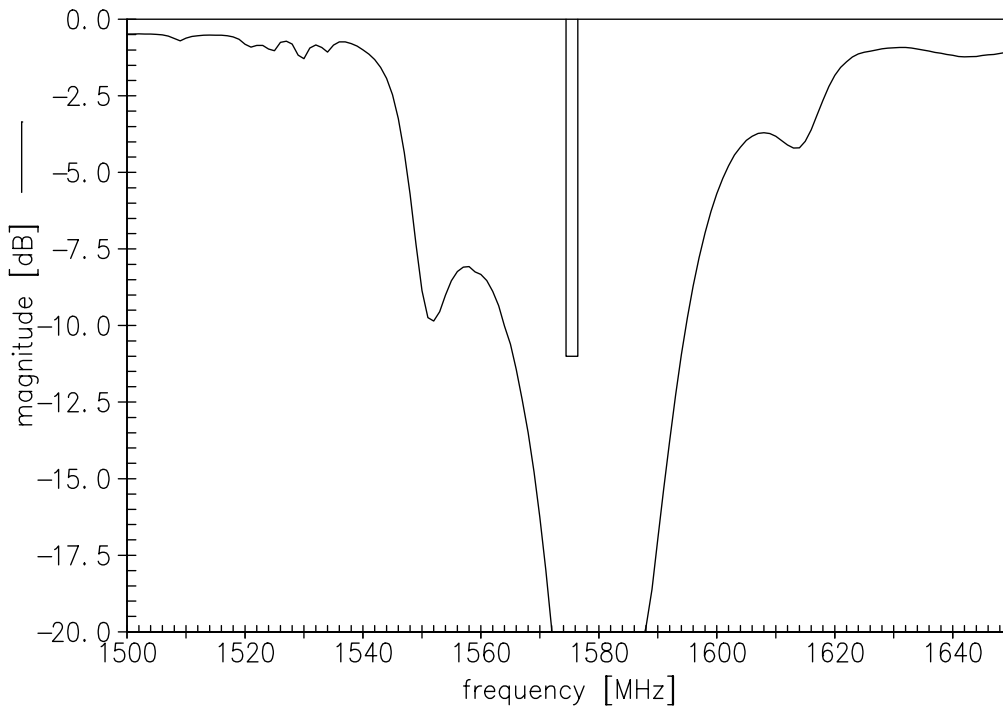


Transfer function (wideband)

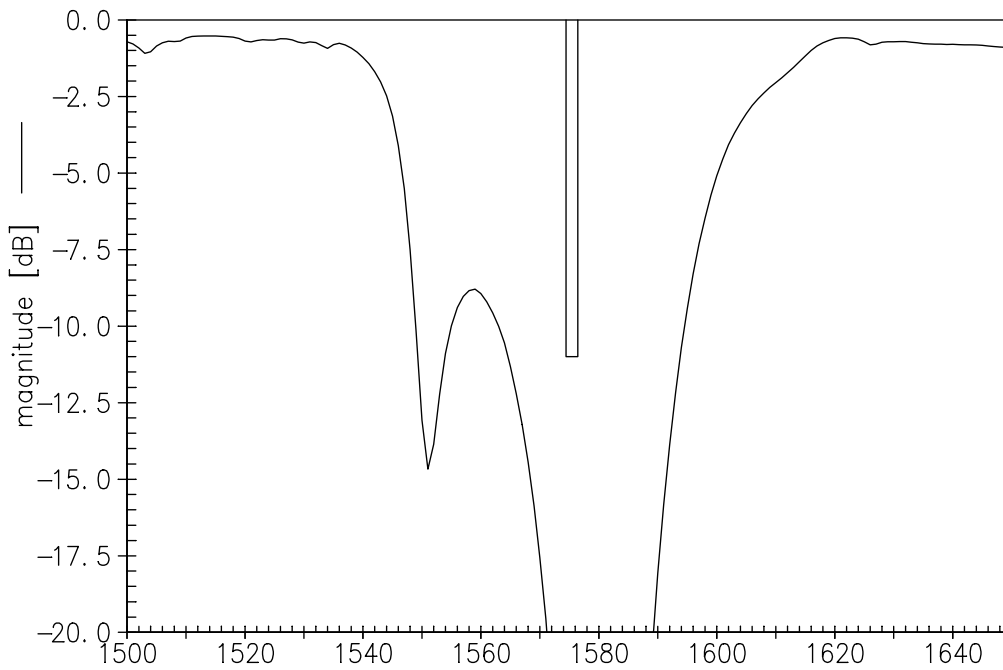




**S<sub>11</sub> function**



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





SAW Components

B7839

Low-Loss Filter for Mobile Communication

1575.42 MHz

Data Sheet



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

For further information please contact your local EPCOS sales office or visit our webpage at [www.epcos.com](http://www.epcos.com).

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