



## SAW Components

### SAW RF low loss filter

Satellite CSS

|                       |                          |
|-----------------------|--------------------------|
| <b>Series/type:</b>   | <b>B1662</b>             |
| <b>Ordering code:</b> | <b>B39212-B1662-B510</b> |
| Date:                 | November 23, 2009        |
| Version:              | 2.0                      |

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Data sheet



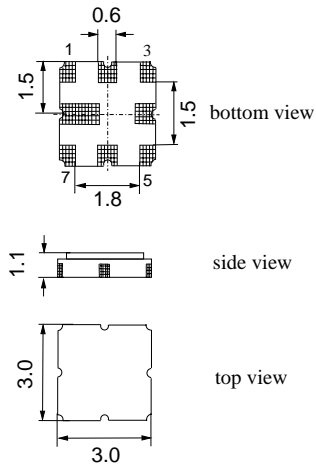
Application

- Low loss RF filter for satellite CSS
- Usable passband 40.0 MHz
- Balanced to balanced operation



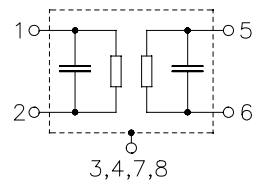
Features

- 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



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



**SAW Components**

**B1662**

**SAW RF low loss filter**

**2096.66 MHz**

Data sheet



**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.<br>@ 25 °C | max. |     |
|--|---------------------|------|-----------------|------|-----|
| <b>Nominal frequency</b>   | $f_N$               | —    | 2096.66         | —    | MHz |
| <b>Maximum insertion attenuation</b><br>2076.66 ... 2116.66 MHz                                  | $\alpha_{max}$      | —    | 4.0             | 5.0  | dB  |
| <b>Pass bandwidth</b><br>$\alpha_{rel} \leq 1.5\text{ dB}$                                       | $B_{1.5\text{ dB}}$ | —    | 63.0            | —    | MHz |
| <b>Amplitude ripple (p-p)</b><br>2076.66 ... 2116.66 MHz   | $\Delta\alpha$      | —    | 1.3             | 2.0  | dB  |
| <b>Input return loss</b>   |                     | 8.0  | 13.0            | —    | dB  |
| <b>Output return loss</b>  |                     | 8.0  | 13.0            | —    | dB  |
| <b>Group delay ripple (p-p)</b><br>2076.66 ... 2116.66 MHz                                       | $\Delta\tau$        | —    | 10.0            | 40.0 | ns  |
| <b>Differential to common mode ratio</b><br>( $ S_{dd21}/S_{cd21} $ )<br>2076.66 ... 2116.66 MHz |                     | 22.0 | 28.0            | —    | dB  |
| <b>Deviation from linear phase (rms)</b><br>in any 30 MHz band<br>2076.66 ... 2116.66 MHz        |                     | —    | 5.0             | 8.0  | °   |
| <b>Relative attenuation</b>  | $\alpha$            |      |                 |      |     |
| 50.0 ... 2016.62 MHz   |                     | 38.0 | 42.0            | —    | dB  |
| 2176.70 ... 2200.00 MHz  |                     | 31.0 | 34.0            | —    | dB  |
| 2200.00 ... 2500.00 MHz  |                     | 34.0 | 40.0            | —    | dB  |
| 2500.00 ... 6000.00 MHz  |                     | 18.0 | —               | —    | dB  |

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B1662

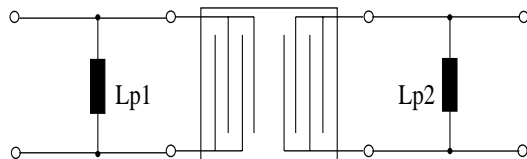
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Matching network (element values depend on PCB layout)



$$L_{p1} = 27\text{nH}$$

$$L_{p2} = 27\text{nH}$$

### Maximum ratings

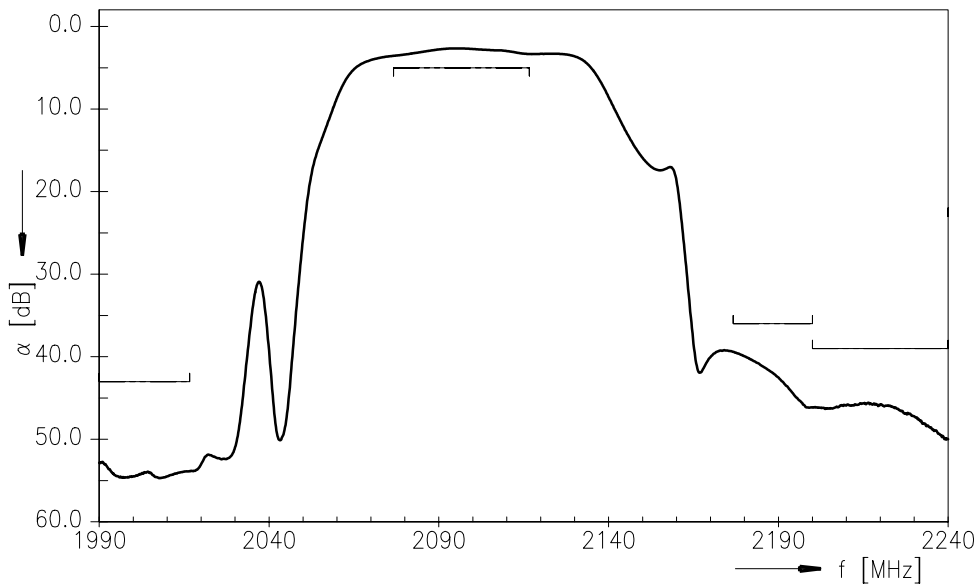
|  |                  |                  |     |                        |
|--|------------------|------------------|-----|------------------------|
| Operable temperature range             | T                | -40/+85          | °C  |                        |
| Storage temperature range              | 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<br>2076.66...2116.66MHz | P <sub>IN</sub>  | 0                | dBm | source impedance 150 Ω |

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

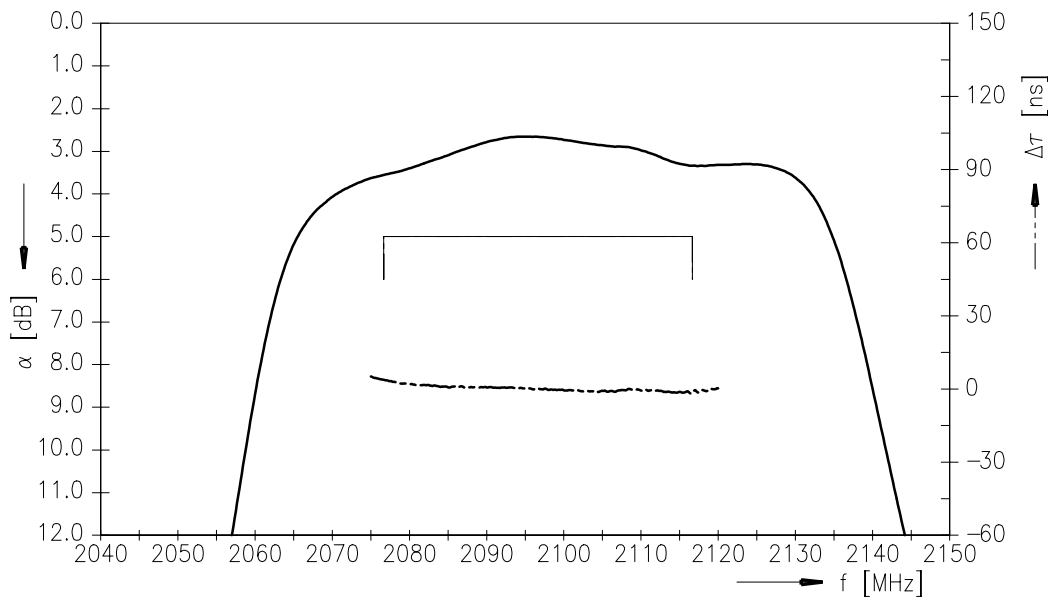
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Transfer function



Transfer function (passband)



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**SAW RF low loss filter** **2096.66 MHz**

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## References

|                            |  |
|----------------------------|--|
| <b>Type</b>                | B1662  |
| <b>Ordering code</b>       | B39212-B1662-B510  |
| <b>Marking and package</b> | C61157-A7-A72  |
| <b>Packaging</b>           | F61074-V8168-Z000  |
| <b>Date codes</b>          | L_1126   |
| <b>S-parameters</b>        | B1662_NB.s4p<br>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:<br>"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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