



SAW Components

SAW filter

GPS

| | |
|-----------------------|-------------------------|
| Series/type: | B9415 |
| Ordering code: | B39162B9415K610 |
| Date: | January 23, 2009 |
| Version: | 2.3 |



Data sheet



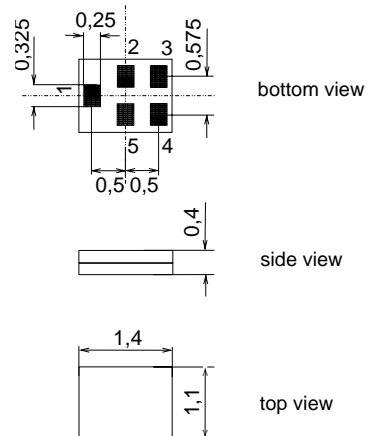
Application

- Low-loss RF filter for mobile telephone GPS systems
- Filter impedance 50 Ω
- Unbalanced to unbalanced operation
- Very low insertion attenuation
- Low amplitude ripple
- Usable passband 2.0 MHz



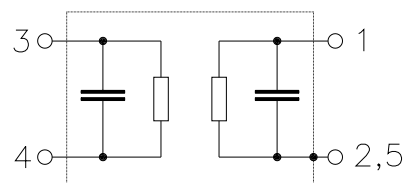
Features

- Package size 1.4 x 1.1 x 0.4 mm³
- Package code QCS5U
- RoHS compatible
- Approximate weight 0.003 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**



Pin configuration

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





Data sheet



Characteristics

Temperature range for specification: T = -40 °C to +85 °C
 Terminating source impedance: Z_S = 50 Ω
 Terminating load impedance: Z_L = 50 Ω

| | | min. | typ. @ 25 °C | max. | |
|--------------------------------------|------------------|------|-----------------|-------------------|-----|
| Center frequency | f _C | — | 1575.42 | — | MHz |
| Maximum insertion attenuation | α _{max} | — | 0.6 | 1.0 ¹⁾ | dB |
| 1574.42 ... 1576.42 MHz | | | | | |
| Amplitude ripple (p-p) | Δα | — | 0.0 | 0.3 | dB |
| 1574.42 ... 1576.42 MHz | | | | | |
| Input VSWR | | — | 1.2 | 1.6 ²⁾ | |
| 1574.42 ... 1576.42 MHz | | | | | |
| Output VSWR | | — | 1.2 | 1.6 ³⁾ | |
| 1574.42 ... 1576.42 MHz | | | | | |
| Attenuation | α | | | | |
| 500.0 ... 894.0 MHz | | 16 | 18 | — | dB |
| 894.0 ... 1500.0 MHz | | 15 | 17 | — | dB |
| 1650.0 ... 4000.0 MHz | | 17 | 19 | — | dB |
| 4000.0 ... 6000.0 MHz | | 15 | 20 | — | dB |

1) 0.9dB max. at -30 °C ... 75 °C

2) 1.5 max. at -30 °C ... 75 °C

3) 1.5 max. at -30 °C ... 75 °C



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Maximum ratings

| | | | | |
|----------------------------|------------------|------------------|-----|-------------------------------|
| Operable temperature range | T | -40/+85 | °C | |
| Storage temperature range | T _{stg} | -40/+85 | °C | |
| DC voltage | V _{DC} | 3 | V | |
| ESD voltage | V _{ESD} | 50 ¹⁾ | V | machine model, 10 pulses |
| Input power at | | | | source/load impedance 50Ω/50Ω |
| 1574.42 ... 1576.42 MHz | P _{IN} | 10 | dBm | cw |
| 2400 ... 2483.5 MHz | P _{IN} | 20 | dBm | cw |
| 824...960, 1710...2170 MHz | P _{IN} | 25 | dBm | cw |

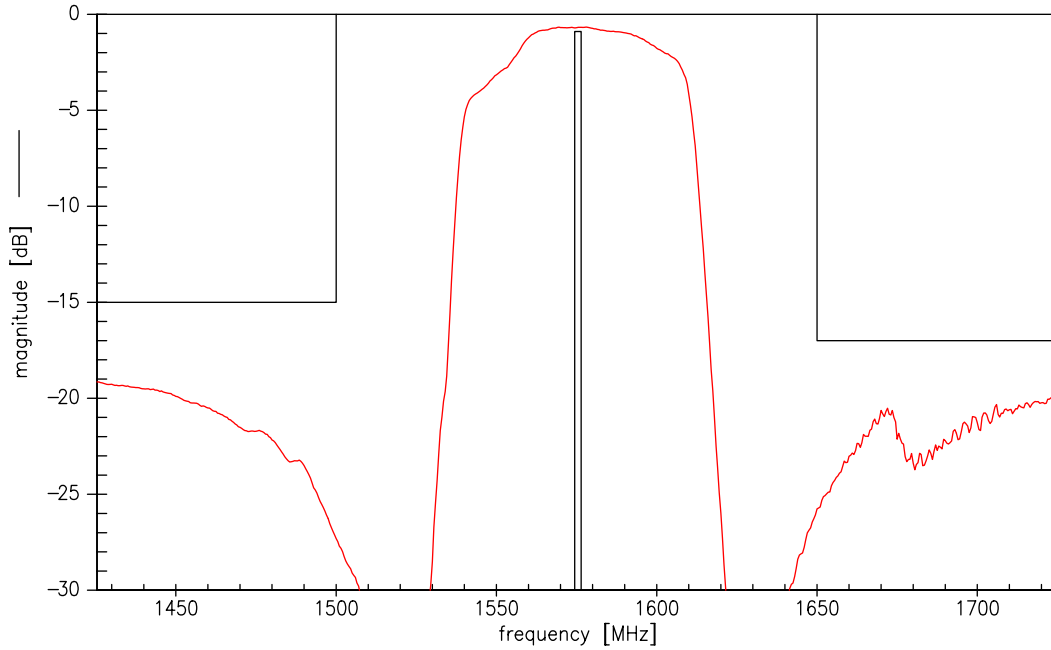
¹⁾ acc. to JESD22-A115A (machine model), 10 negative & 10 positive pulses.



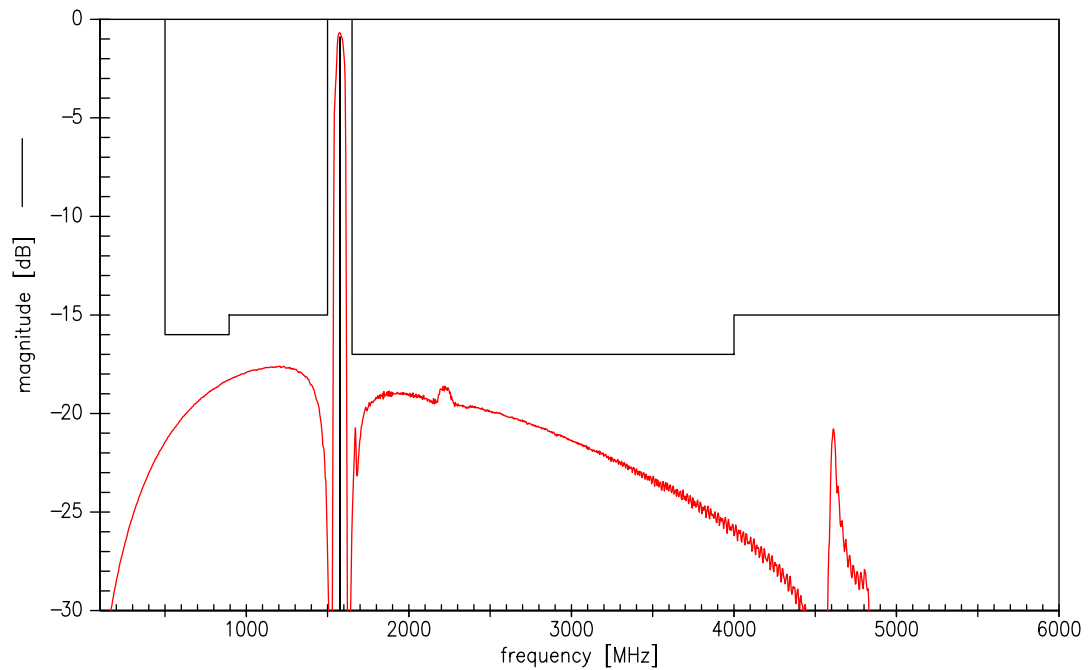
Data sheet



Transfer function (narrow band)



Transfer function (wide band)



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

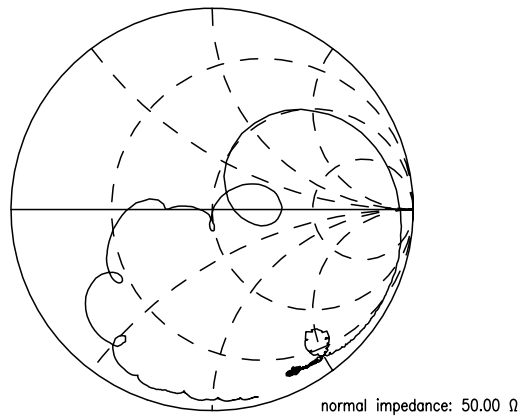
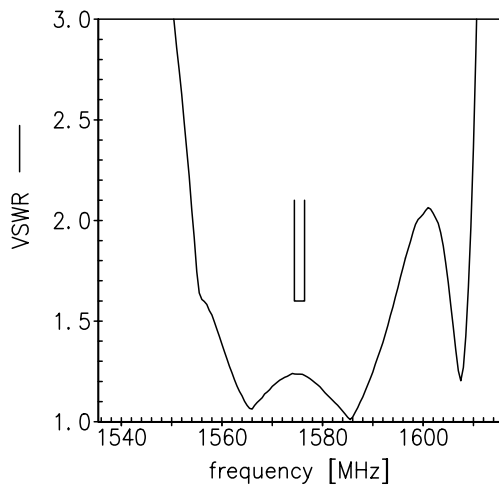


Data sheet

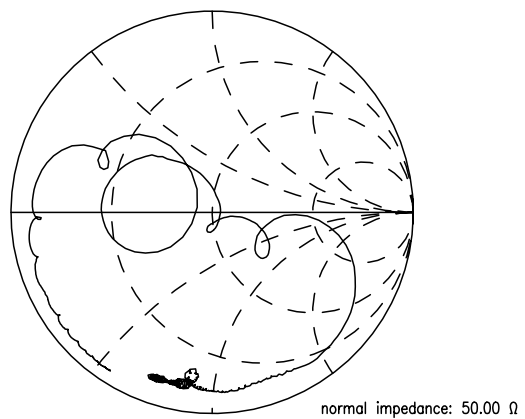
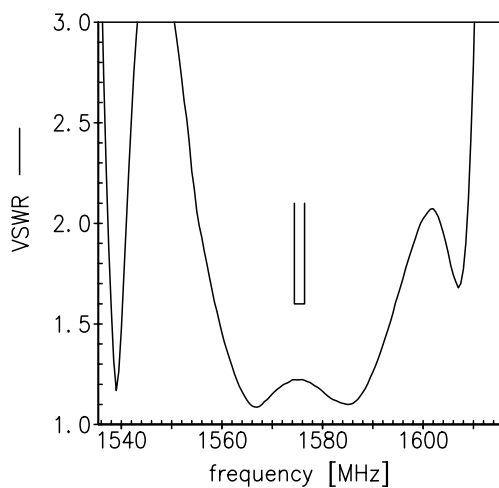


Smith charts

S₁₁ function



S₂₂ function





| | |
|-----------------------|--------------------|
| SAW Components | B9415 |
| SAW filter | 1575.42 MHz |
| Data sheet | |

References

| | |
|----------------------------|--|
| Type | B9415 |
| Ordering code | B39162B9415K610 |
| Marking and package | C61157-A8-A14 |
| Packaging | F61074-V8237-Z000 |
| Date codes | L_1126 |
| S-parameters | B9415_NB.s2p B9415_WB.s2p "See file header for port/pin assignment table" |
| Soldering profile | S_6001 |
| RoHS compatible | 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." |
| Moldability | Before using in overmolding environment, please contact your EPCOS sales office. |

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com .

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



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