

## Excellent Integrated System Limited

Stocking Distributor

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[EPCOS \(TDK\)](#)  
[B39162B9415K610](#)

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[sales@integrated-circuit.com](mailto:sales@integrated-circuit.com)



## SAW Components

### SAW filter

GPS

<b>Series/type:</b>	<b>B9415</b>
<b>Ordering code:</b>	<b>B39162B9415K610</b>
<b>Date:</b>	January 23, 2009
<b>Version:</b>	2.3



## SAW Components

B9415

## SAW filter

1575.42 MHz

## Data sheet



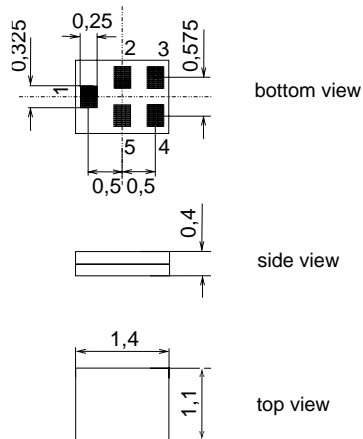
## Application

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



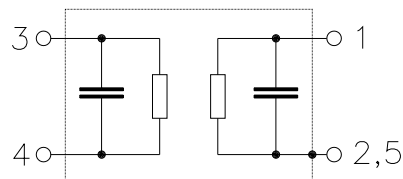
## Features

- Package size 1.4 x 1.1 x 0.4 mm<sup>3</sup>
- 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





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Data sheet



### Characteristics

Temperature range for specification:  $T = -40\text{ °C to }+85\text{ °C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$   
 Terminating load impedance:  $Z_L = 50\ \Omega$

		min.	typ. @ 25 °C	max.	
<b>Center frequency</b>	$f_C$	—	1575.42	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	0.6	1.0 <sup>1)</sup>	dB
1574.42 ... 1576.42 MHz					dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	0.0	0.3	dB
1574.42 ... 1576.42 MHz					
<b>Input VSWR</b>		—	1.2	1.6 <sup>2)</sup>	
1574.42 ... 1576.42 MHz					
<b>Output VSWR</b>		—	1.2	1.6 <sup>3)</sup>	
1574.42 ... 1576.42 MHz					
<b>Attenuation</b>	$\alpha$				
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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<b>SAW filter</b>	<b>1575.42 MHz</b>
<b>Data sheet</b>	<b>SMD</b>

### Maximum ratings

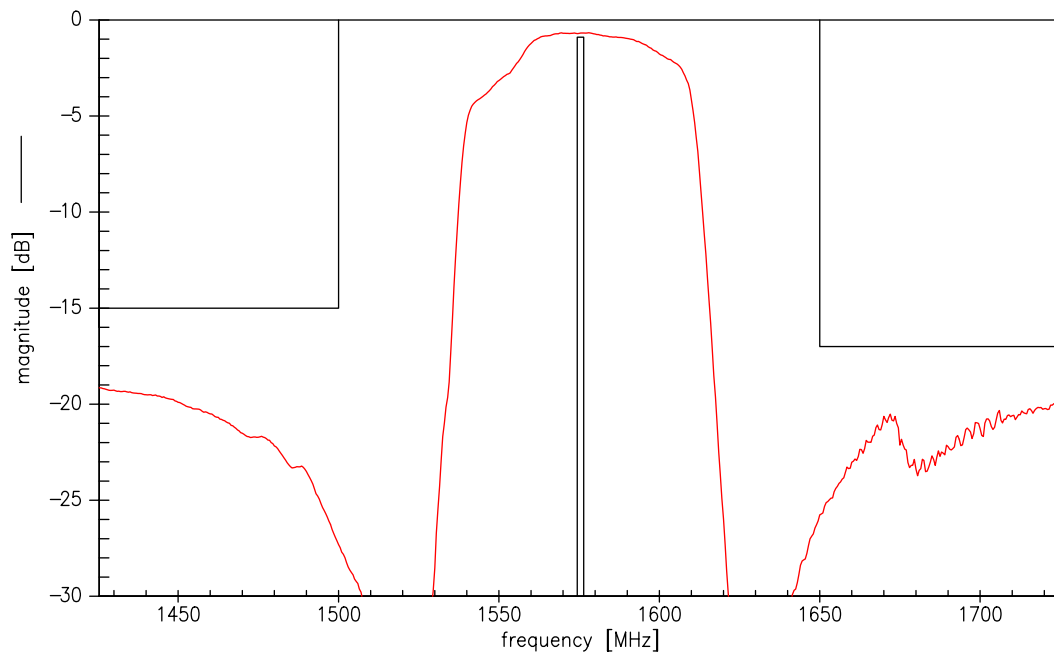
Operable temperature range	T	−40/+85	°C	
Storage temperature range	T <sub>stg</sub>	−40/+85	°C	
DC voltage	V <sub>DC</sub>	3	V	
ESD voltage	V <sub>ESD</sub>	50 <sup>1)</sup>	V	machine model, 10 pulses
Input power at				source/load impedance 50Ω/50Ω
1574.42 ... 1576.42 MHz	P <sub>IN</sub>	10	dBm	cw
2400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

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

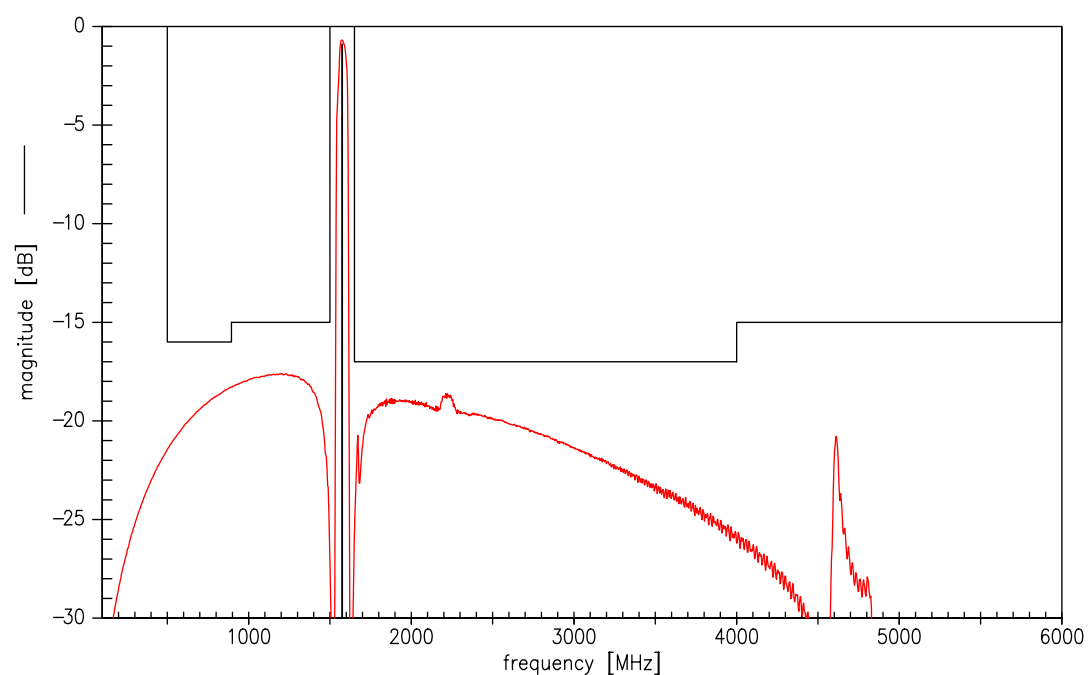


SAW Components	B9415
SAW filter	1575.42 MHz
Data sheet	SMD

### Transfer function (narrow band)



### Transfer function (wide band)





SAW Components

B9415

SAW filter

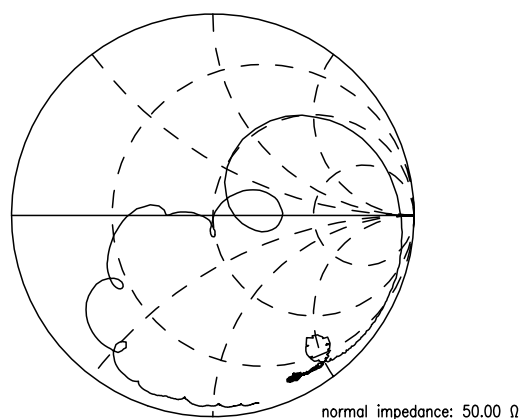
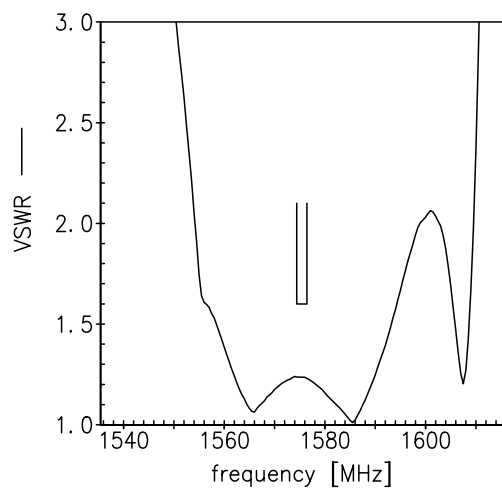
1575.42 MHz

Data sheet

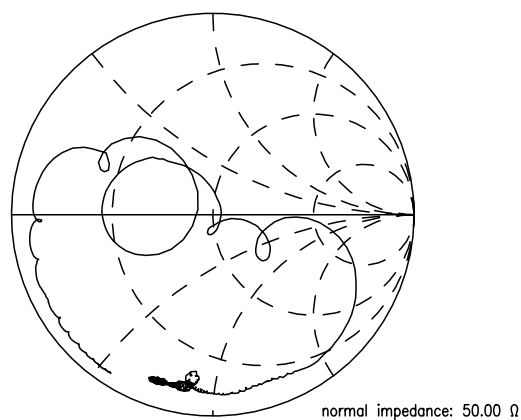
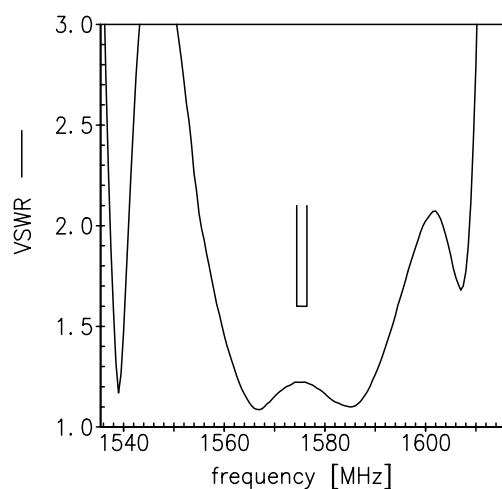


Smith charts

$S_{11}$  function



$S_{22}$  function





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<b>SAW filter</b>	<b>1575.42 MHz</b>
<b>Data sheet</b>	<b>SMD</b>

## References

<b>Type</b>	B9415
<b>Ordering code</b>	B39162B9415K610
<b>Marking and package</b>	C61157-A8-A14
<b>Packaging</b>	F61074-V8237-Z000
<b>Date codes</b>	L_1126
<b>S-parameters</b>	B9415_NB.s2p B9415_WB.s2p "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: "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."
<b>Moldability</b>	Before using in overmolding environment, please contact your EPCOS sales office.

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