SAW Components

SAW filter

GPS

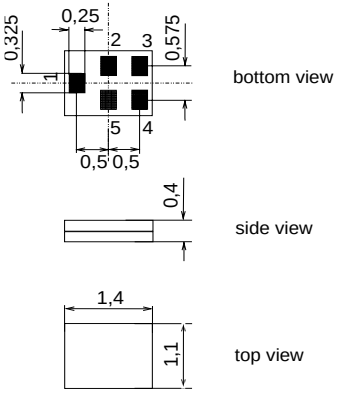
Series/type:	**B9416**
Ordering code:	**B39162B9416K610**
Date:	March 05, 2007
Version:	2.2

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

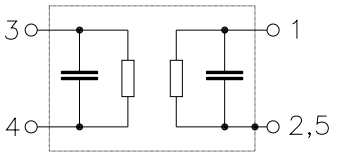
Features

- Package size 1.4 x1.1 x 0.4 mm³
- Package code QCS5F
- RoHS compatible
- Approximate weight 0.003 g
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)



Pin configuration

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



Data sheet SMD

Characteristics

Temperature range for specification: T = –30 °C to +85 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

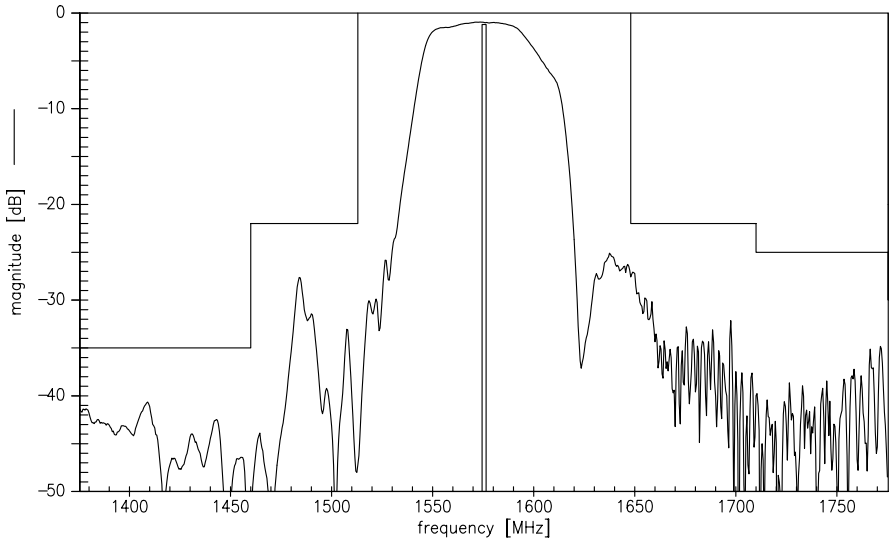
		min.	typ. @ 25 °C	max.	
Center frequency	f_C	—	1575.42	—	MHz
Maximum insertion attenuation	α_{max}				
1574.42 ... 1576.42 MHz		—	0.9	1.2	dB
					dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1574.42 ... 1576.42 MHz		—	0.05	0.3	dB
Input VSWR					
1574.42 ... 1576.42 MHz		—	1.1	1.8	
Output VSWR					
1574.42 ... 1576.42 MHz		—	1.1	1.8	
Attenuation	α				
0.1 ... 960.0 MHz		38	40	—	dB
960.0 ... 1460.0 MHz		35	39	—	dB
1460.0 ... 1513.0 MHz		22	28	—	dB
1648.0 ... 1710.0 MHz		22	26	—	dB
1710.0 ... 1990.0 MHz		25	33	—	dB
1990.0 ... 2300.0 MHz		25	30	—	dB
2300.0 ... 4000.0 MHz		30	38	—	dB
4000.0 ... 6000.0 MHz		20	35	—	dB

Maximum ratings

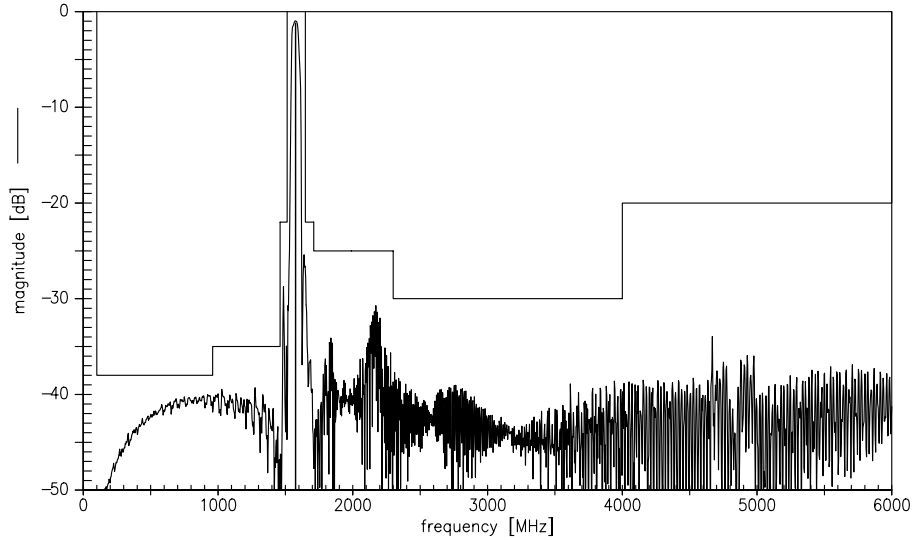
Operable temperature range	T	–40/+85	˚C	
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	3	V	
ESD voltage	V_{ESD}	50[1)]	V	machine model, 10 pulses
Input power at				source/load impedance 50Ω/50Ω
1574.42 ... 1576.42 MHz	P_{IN}	3	dBm	cw
50...1460, 1710...4000 MHz	P_{IN}	15	dBm	cw
824...849, 1710...2170 MHz	P_{IN}	25	dBm	cw

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

Transfer function (narrow band)

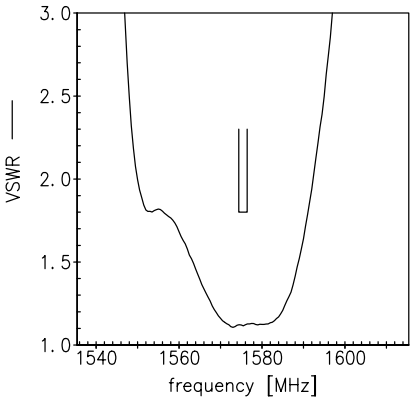


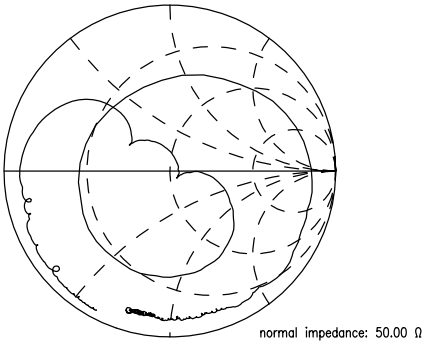
Transfer function (wide band)



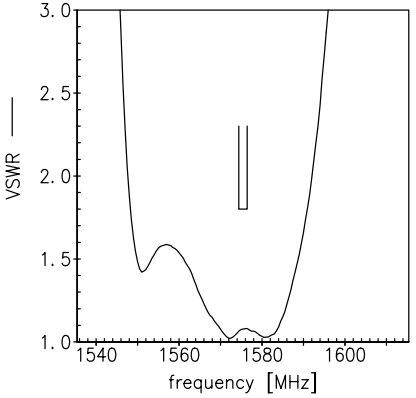
Smith charts

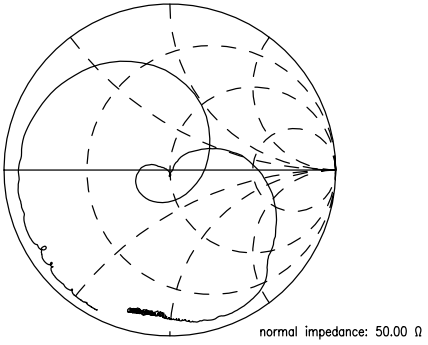
S_{11} function





S_{22} function





References

Type	B9416
Ordering code	B39162B9416K610
Marking and package	C61157-A8-A1
Packaging	F61074-V8212-Z000
Date codes	L_1126
S-parameters	B9416_NB.s2p B9416_WB.s2p
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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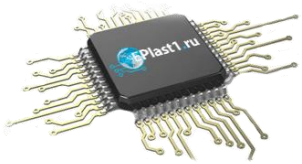

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