



SAW Components

SAW Rx filter

GPS

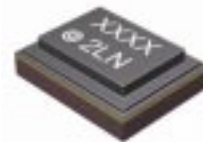
Series/type:	B4308
Ordering code:	B39162B4308P810
Date:	September 27, 2011
Version:	2.0

Data sheet



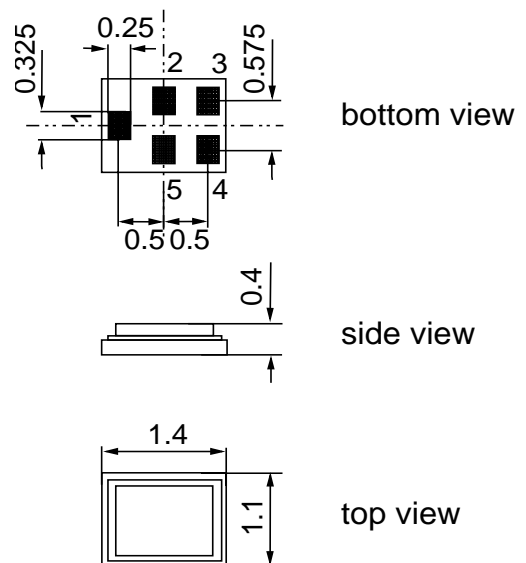
Application

- Low-loss RF filter for GPS applications. Impedance transformation from 50 Ω to 100 Ω
- Unbalanced to balanced operation
- Very low insertion attenuation
- Very high Tx-suppression
- Low amplitude ripple
- Usable passband 2 MHz



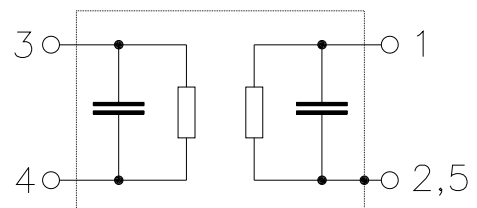
Features

- Package size 1.4 x1.1 x 0.4 mm³
- Package code QCS5P
- RoHS compatible
- Approximate weight 0.003 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- AEC-Q200 qualified component family (operable temperature range -40°C to +85°C)
- **Electrostatic Sensitive Device (ESD)**



Pin configuration

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



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: $Z_L = 100\ \Omega$ (balanced)

		min.	typ. @ 25 °C	max.	
Center frequency	f_C	—	1575.42	—	MHz
Maximum insertion attenuation 1574.42 ... 1576.42 MHz	α_{\max}	—	1.3	1.8	dB
Amplitude ripple (p-p) 1574.42 ... 1576.42 MHz	$\Delta\alpha$	—	0.2	0.6	dB
VSWR 1574.42 ... 1576.42 MHz		—	1.4	2.0	
CMRR ($S_{21}-S_{31} / S_{21}+S_{31}$) 1574.42 ... 1576.42 MHz		19 ¹⁾	24	—	dB
Attenuation	α				
100.0 ... 960.0 MHz		52	65	—	dB
960.0 ... 1475.0 MHz		48	55	—	dB
1475.0 ... 1515.0 MHz		30	36	—	dB
1515.0 ... 1529.0 MHz		23	29	—	dB
1625.0 ... 1635.0 MHz		25	36	—	dB
1635.0 ... 1675.0 MHz		30	37	—	dB
1675.0 ... 1850.0 MHz		37	44	—	dB
1850.0 ... 1910.0 MHz		40	50	—	dB
1910.0 ... 1990.0 MHz		44	51	—	dB
1990.0 ... 2400.0 MHz		34	44	—	dB

1) A CMRR of 19.6 dB corresponds to a phase imbalance of +/-10° together with an amplitude imbalance of +/- 1.0 dB.

Maximum ratings

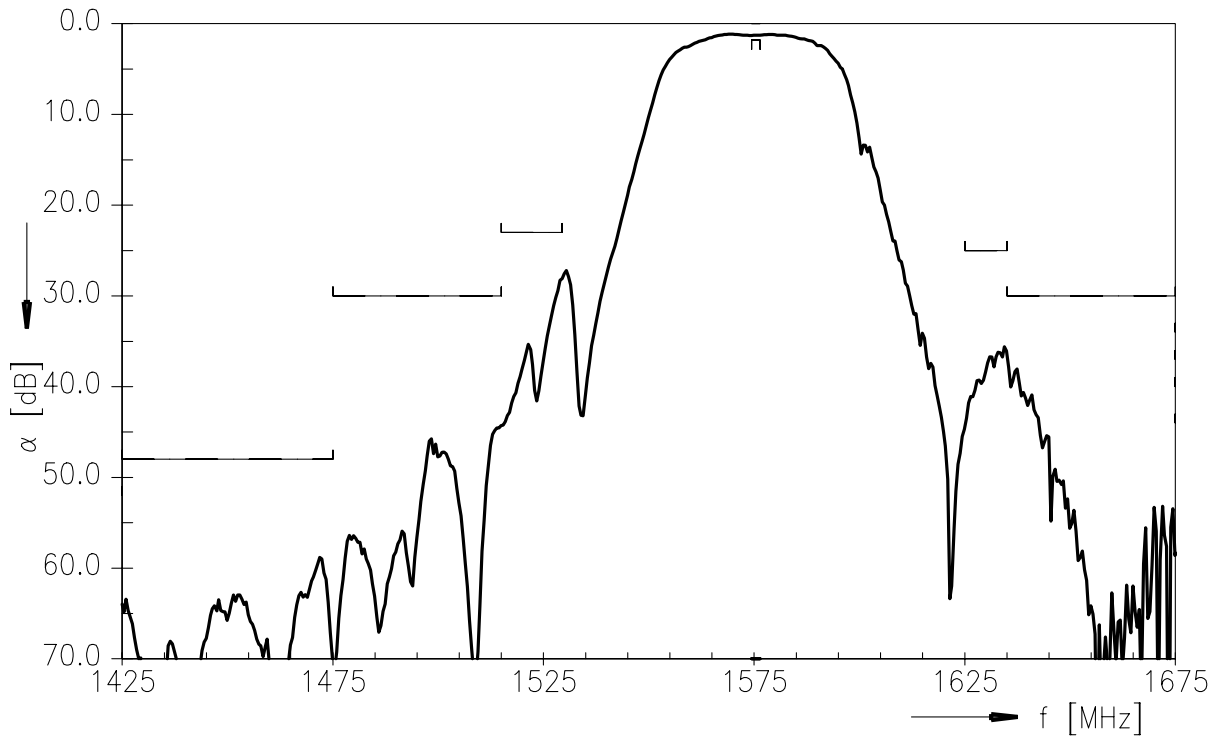
Operable temperature range	T	-40/+85	°C	
Storage temperature range	T _{stg}	-40/+85	°C	
DC voltage	V _{DC}	0	V	
ESD voltage	V _{ESD}	50 ¹⁾	V	machine model, 10 pulses
Input power at				source 50Ω , load 100Ω
824.00 ... 960.00	MHz P _{IN}	20	dBm	cw
960.00 ... 1525.00	MHz P _{IN}	20	dBm	cw
1574.42 ... 1576.42	MHz P _{IN}	5	dBm	cw
1710.00 ... 2170.00	MHz P _{IN}	20	dBm	cw
2400.00 ... 2483.50	MHz P _{IN}	20	dBm	cw

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

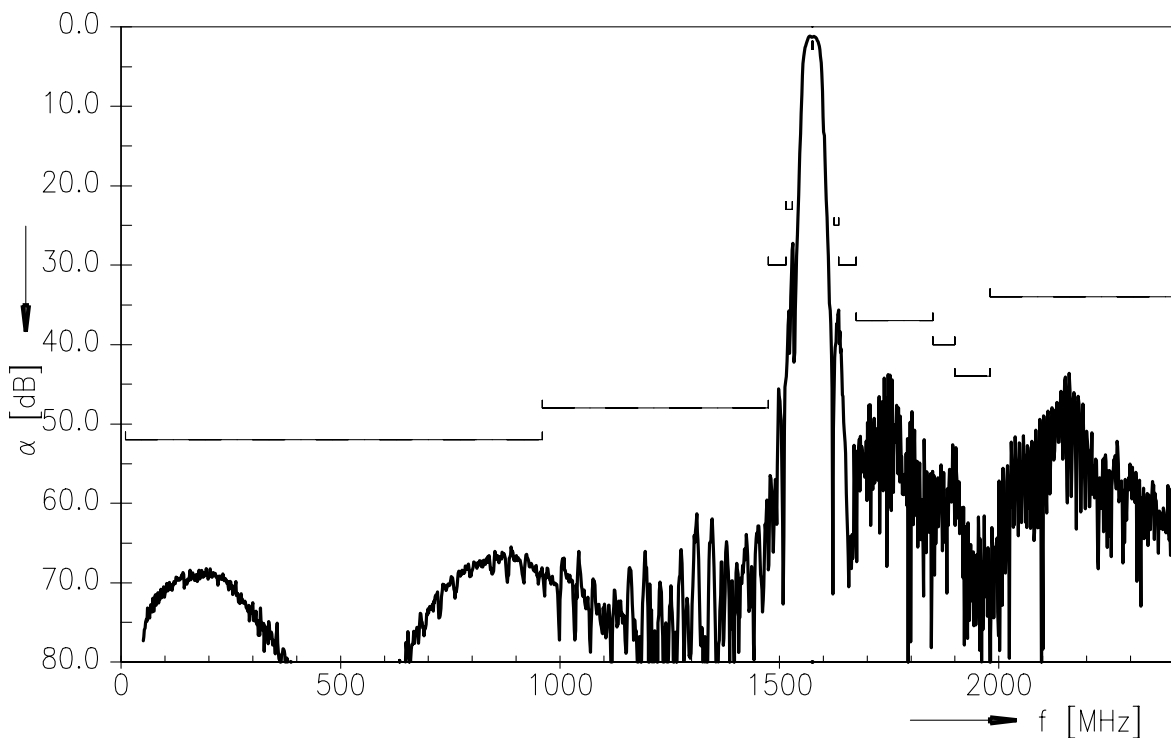
Data sheet



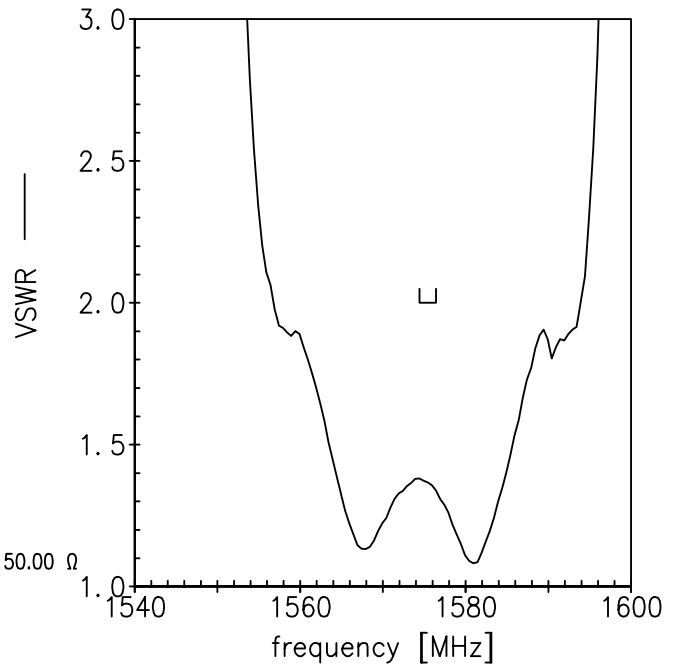
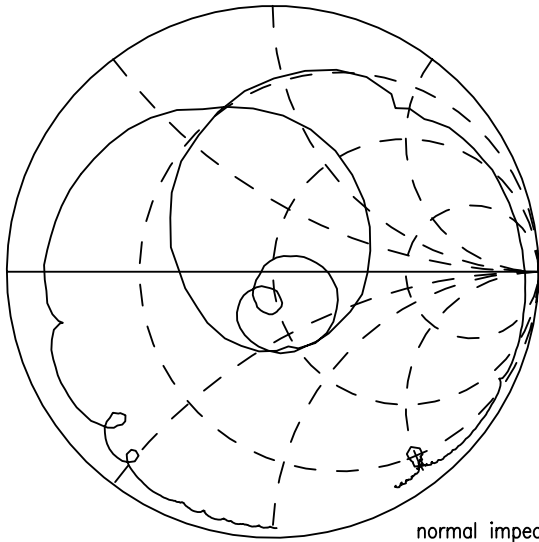
Frequency response (narrowband)



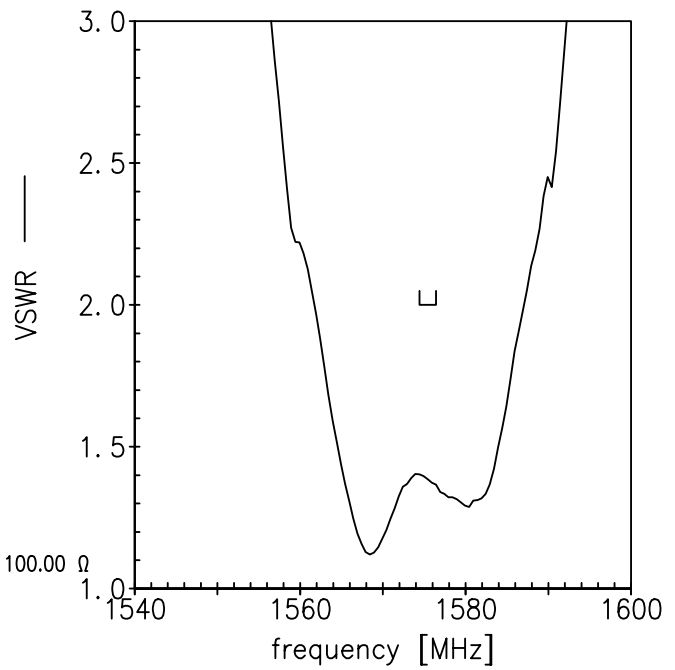
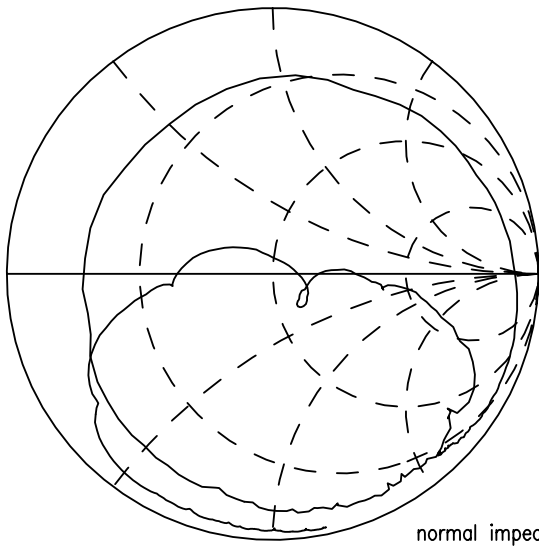
Frequency response (wideband)



S₁₁ function



S₂₂ function




References

Type	B4308
Ordering code	B39162B4308P810
Marking and package	C61157-A8-A9
Packaging	F61074-V8212-Z000
Date codes	L_1126
S-parameters	B4308_NB.s3p, B4308_WB.s3p 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.
Matching coils	See Inductor pdf-catalog http://www.tdk.co.jp/tefe02/coil.htm#aname1 and Data Library for circuit simulation http://www.tdk.co.jp/etvcl/index.htm

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

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