SAW Components

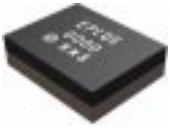
SAW Rx Filter

GPS

Series/Type:	**B9457**
Ordering code:	**B39162B9457P810**
Date:	Sep 07, 2009
Version:	2.0

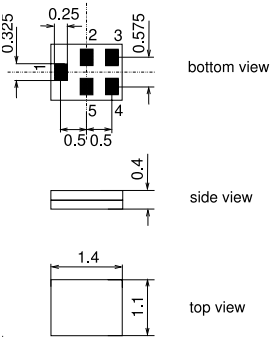
Application

- Low-loss RF filter for mobile telephone GPS systems
- Ultra low insertion attenuation
- Low amplitude ripple
- Usable passband 2.4 MHz
- Unbalanced to unbalanced operation
- Filter impedance 50 Ω



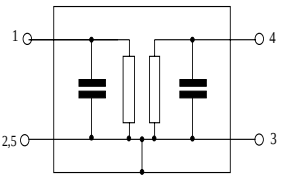
Features

- Package size 1.4 x 1.1 x 0.4 mm³
- Package code QCS5U
- RoHS compatible
- Approx. weight 0.003g
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- **E**lectrostatic **S**ensitive **D**evice (**ESD**)



Pin configuration

- 1 Input, unbalanced
- 4 Output, unbalanced
- 2,3,5 Case-ground



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}				
1574.22 ... 1576.62 MHz		—	0.45 [1]	0.8	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1574.22 ... 1576.62 MHz		—	0.1	0.5	dB
Input VSWR					
1574.22 ... 1576.62 MHz		—	1.1	1.7	
Output VSWR					
1574.22 ... 1576.62 MHz		—	1.1	1.7	
Attenuation	α				
824.0 ... 960.0 MHz		20	21	—	dB
1500.0 ... 1525.42 MHz		20	30	—	dB
1625.42 ... 1650.0 MHz		20	29	—	dB
1710.0 ... 2170.0 MHz		20	23	—	dB

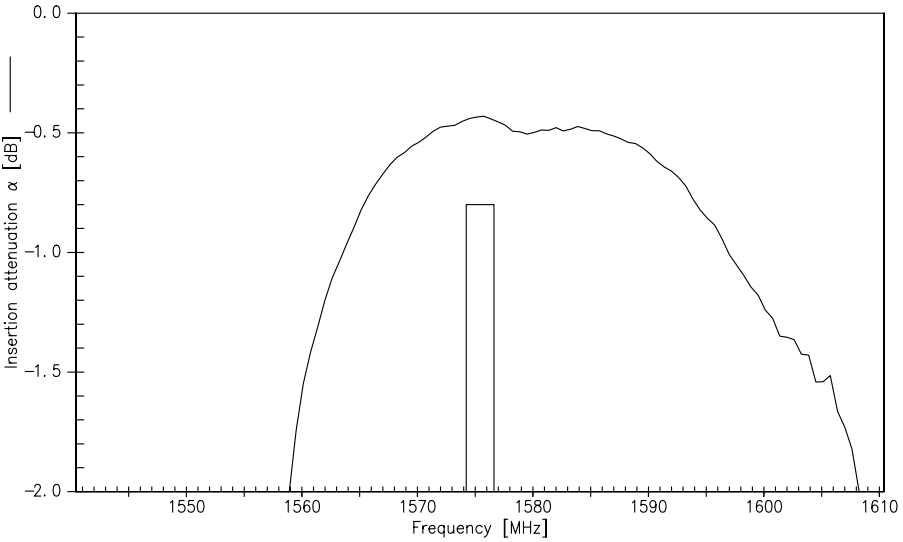
[1] Typical value excluding PCB losses of 0.1dB.

Maximum ratings

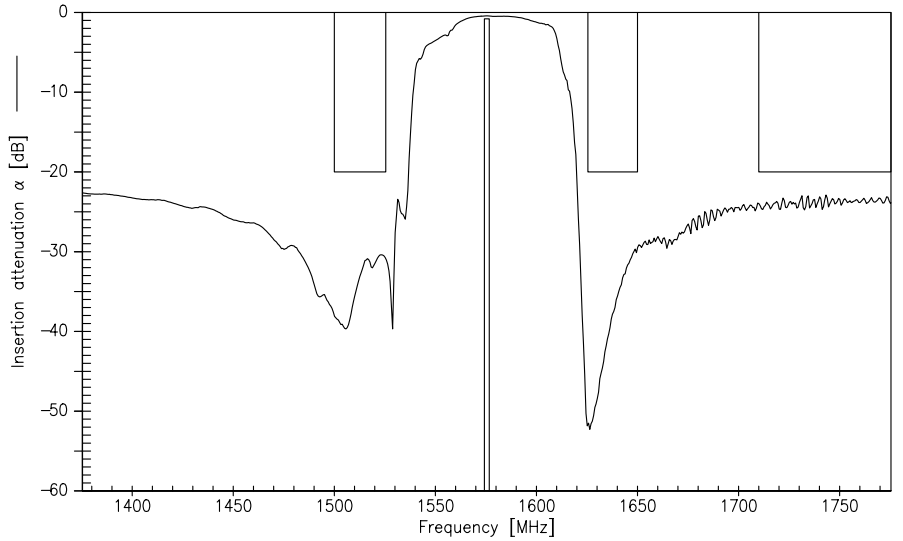
Operable temperature range	T	–40/+85	˚C	
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	3	V	
ESD voltage	V_{ESD}	50 [1)]	V	machine model, 1 pulse
Input Power at				
1574.22 ... 1576.62 MHz	P_{IN}	10	dBm	continuous wave
824.0 ... 960.0 MHz	P_{IN}	20	dBm	continuous wave
1710.0 ... 2170.0 MHz	P_{IN}	18	dBm	continuous wave

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

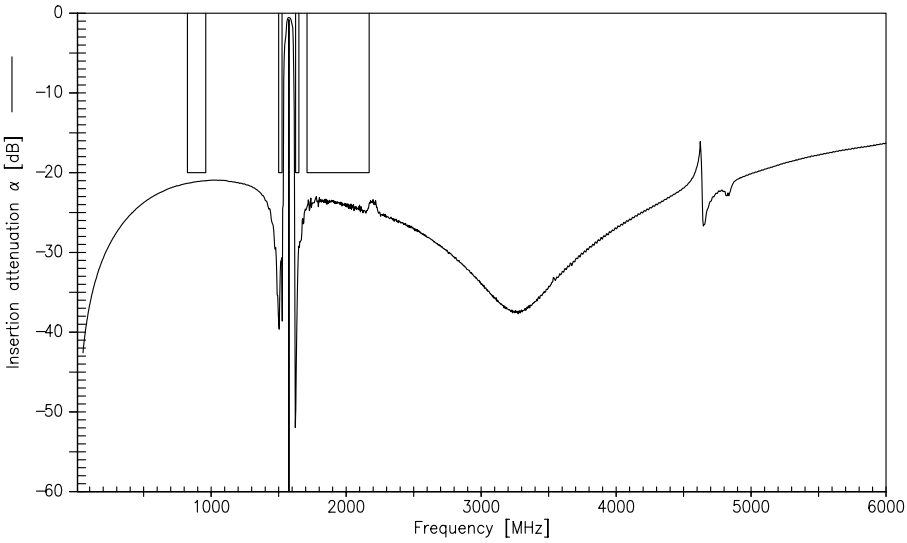
Transfer function (passband)



Transfer function (narrowband)

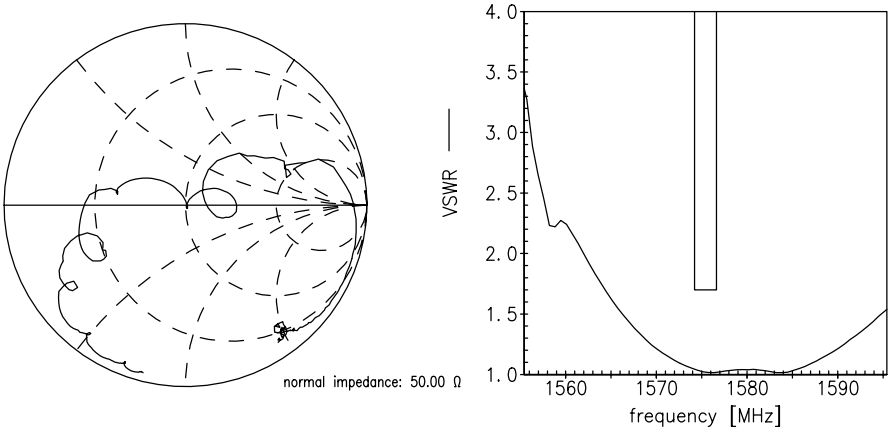


Transfer function (wideband)

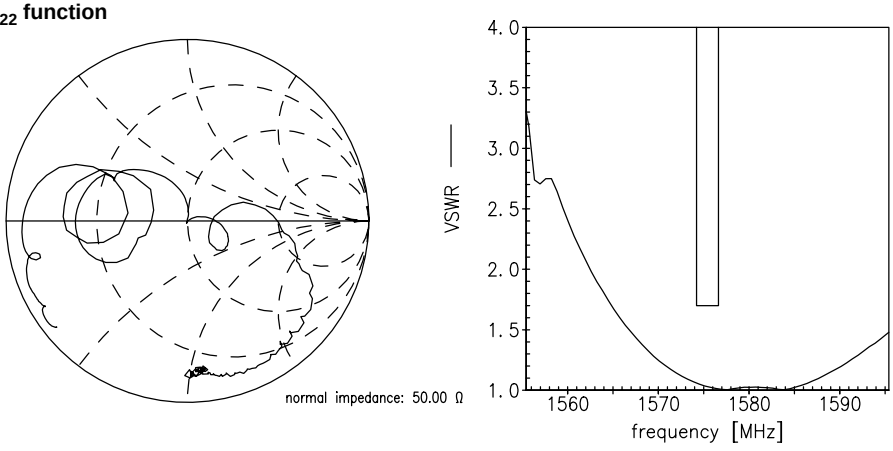


Smith charts

S_{11} function



S_{22} function



References

Type	B9457
Ordering code	B39162B9457P810
Marking and package	C61157-A8-A14
Packaging	F61074-V8237-Z000
Date codes	L_1126
S-parameters	B9457_NB.s2p B9457_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.

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