SAW Components

SAW GPS filter

Series/type:	**B9444**
Ordering code:	**B39162B9444M410**
Date:	January 19, 2015
Version:	2.3

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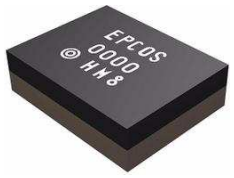
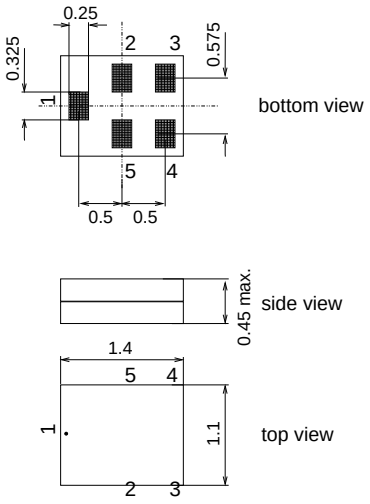
Application

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



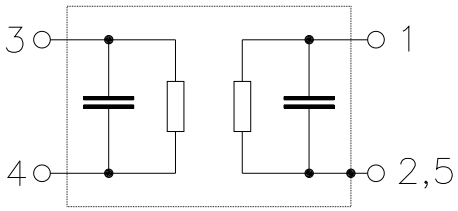
Features

- Package size 1.4 x1.1 x 0.4 mm³
- Package code QCS5I
- 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**)
- **M**oisture **S**ensitive **L**evel 3



Pin configuration

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



Data Sheet SMD

Characteristics of Filter

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

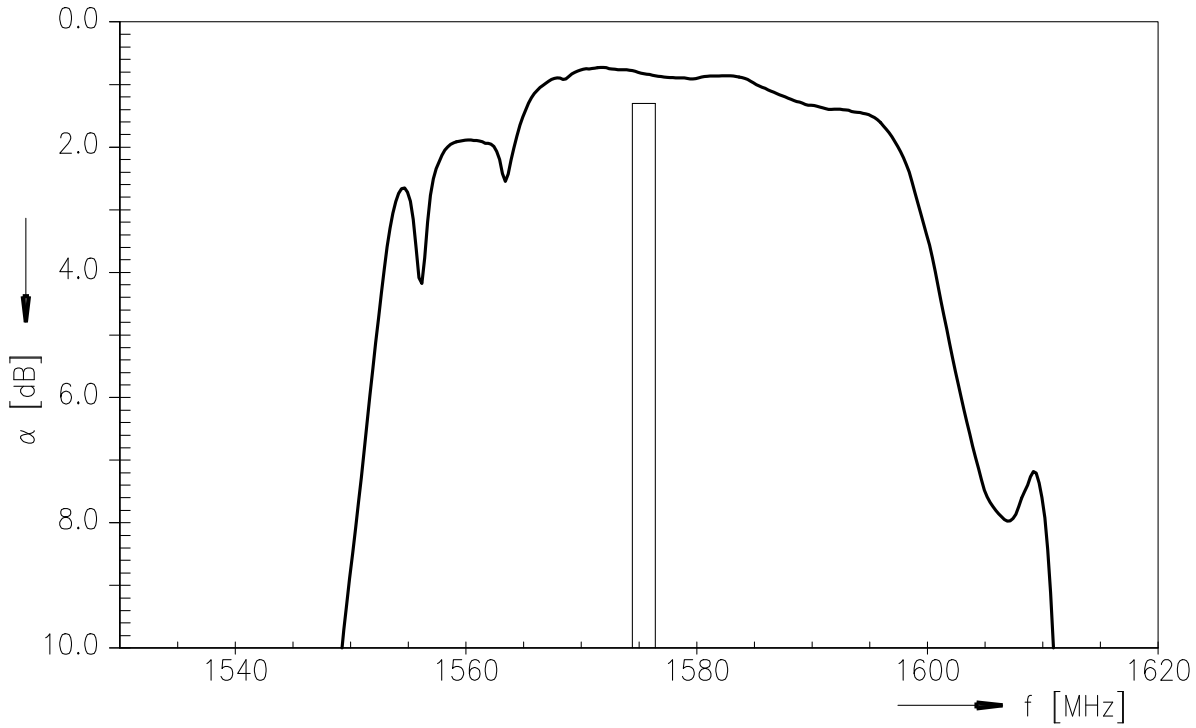
		min.	typ. @ 25 ˚C	max.	
Center frequency	f_C	—	1575.42	—	MHz
Maximum insertion attenuation	α_{max}				
1574.42 ... 1576.42 MHz		—	0.9	1.3	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
1574.42 ... 1576.42 MHz		—	0.05	0.6	dB
Input and Output VSWR					
1574.42 ... 1576.42 MHz		—	1.25	1.8	
Attenuation	α				
0.1 ... 880.0 MHz		42	46	—	dB
880.0 ... 915.0 MHz		42	46	—	dB
915.0 ... 1453.0 MHz		40	46	—	dB
1453.0 ... 1525.0 MHz		37	50	—	dB
1625.0 ... 1710.0 MHz		40	52	—	dB
1710.0 ... 2050.0 MHz		45	50	—	dB
2050.0 ... 2250.0 MHz		40	50	—	dB
2250.0 ... 2400.0 MHz		35	41	—	dB
2400.0 ... 2700.0 MHz		40	49	—	dB
2700.0 ... 6000.0 MHz		30	35	—	dB

Maximum ratings of Filter

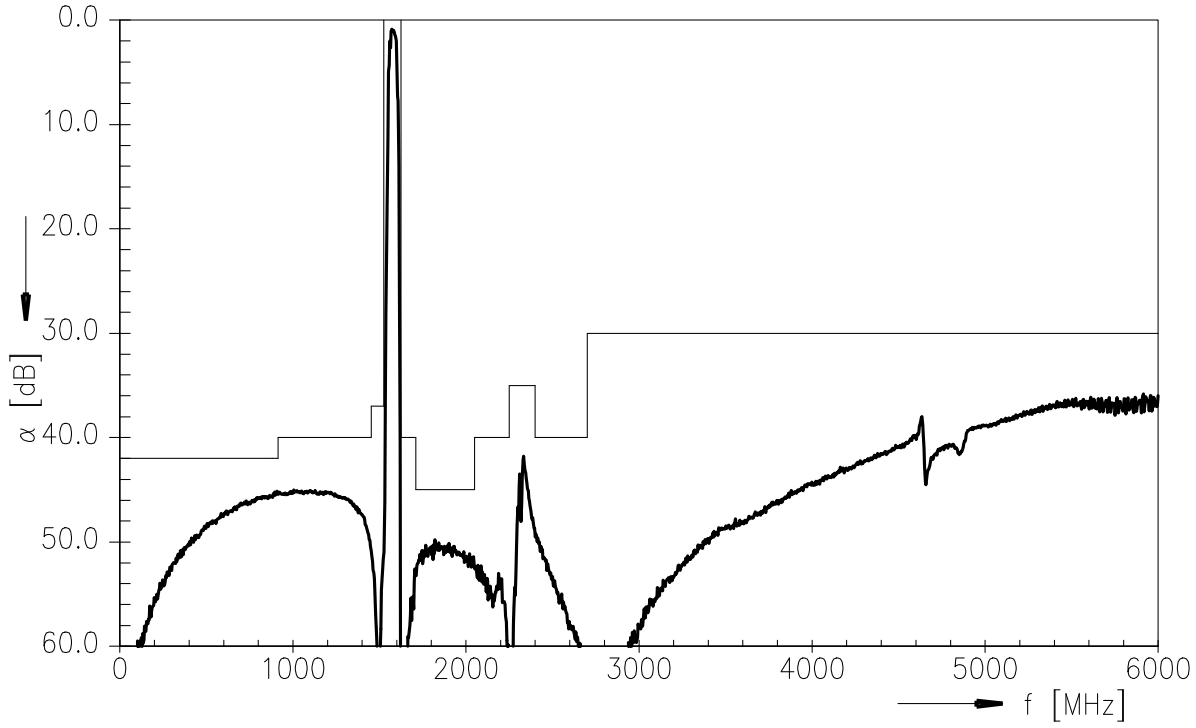
Operable temperature range	T	–30/+85	˚C	
Storage temperature range	T_{stg}	–40/+85	˚C	
DC voltage	V_{DC}	5[1)]	V	
ESD voltage	V_{ESD}	50[2)]	V	Machine Model
		325[3)]	V	Human Body Model
		600[4)]	V	Charge Device Model
Input power at				source/load impedance 50Ω/50Ω
824 ... 960, 1710 ...1980 MHz	P_{IN}	23[5)]	dBm	cw
2400 ... 2500 MHz	P_{IN}	10	dBm	cw
5100 ... 5900 MHz	P_{IN}	0	dBm	cw

1) 168h Damp Heat Steady State acc. to IEC 60068-2-67 Cy.
2) acc. to JESD22-A115B (MM - Machine Model), 10 negative and 10 positive pulses.
3) acc. to JESD22-A114F (HBM - Human Body Model) , 1 negative & 1 positive pulses.
4) acc. to JESD22-C101C (CDM - Field Induced Charged Device Model) , 3 negative & 3 positive pulses.
5) 10000 h, 55 ˚C

Transfer function (narrow band)

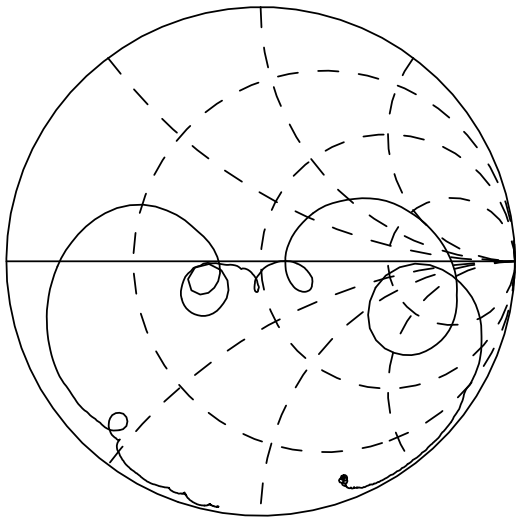


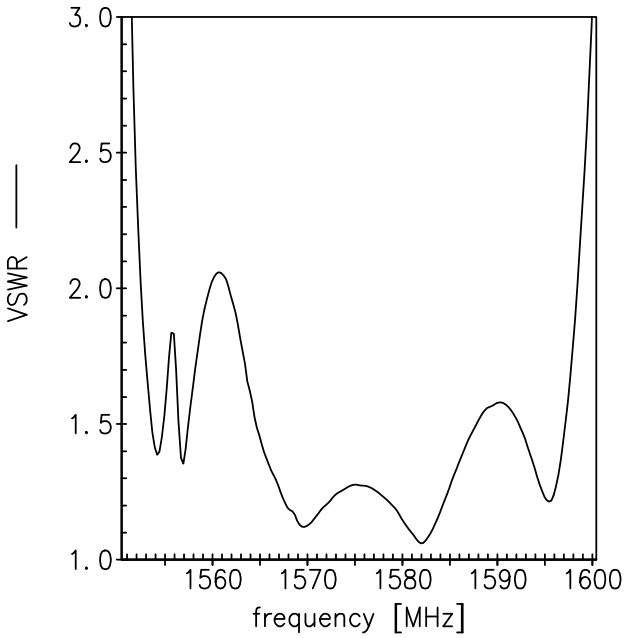
Transfer function (wide band)



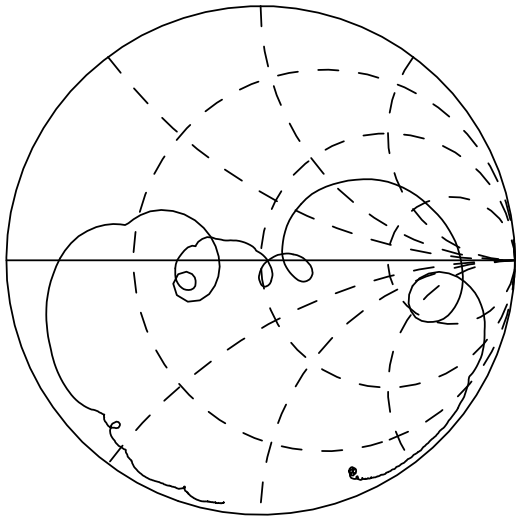
Smith chart / VSWR

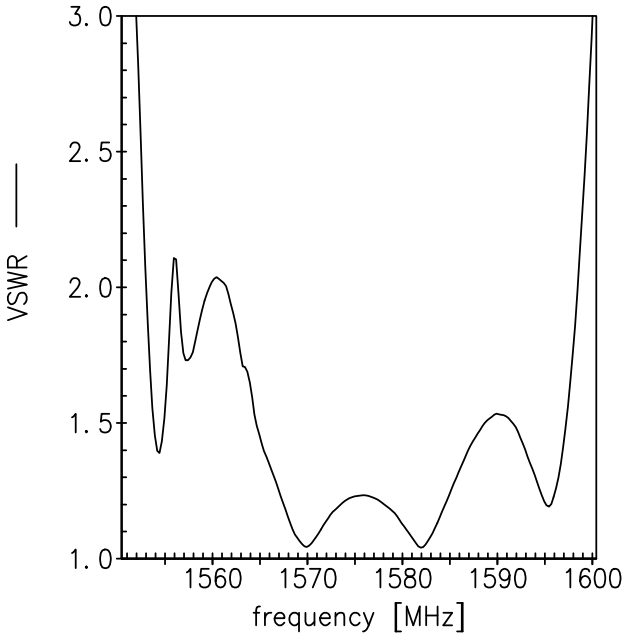
S_{11} function





S_{22} function





References

Type	B9444
Ordering code	B39162B9444M410
Marking and package	C61157-A8-A3
Packaging	F61074-V8237-Z000
Date codes	L_1126
S-parameters	B9444_NB_UN.s2p, B9444_WB_UN.s2p See file header for pin/port assignments.
Soldering profile	S_6001
RoHS compatible	RoHS-compatible means that products are compatible with the requirements according to Art. 4 (substance restrictions) of Directive 2011/65/EU of the European Parliament and of the Council of June 8th, 2011, on the restriction of the use of certain hazardous substances in electrical and electronic equipment ("Directive") with due regard to the application of exemptions as per Annex III of the Directive in certain cases.
Moldability	Before using in overmolding environment, please contact your EPCOS sales office.
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