



SAW Components

SAW GPS Filter

Series/type:	B9080
Ordering code:	B39162B9080L310
Date:	February 07, 2008
Version:	2.2



SAW Components

B9080

SAW GPS Filter

1575.42 MHz

Data Sheet

SMD

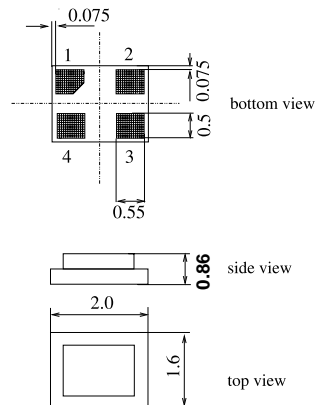
Application

- ESD robust low-loss RF GPS filter
- High ESD protection at the filter input
- Usable passband: 2 MHz
- Very low insertion attenuation
- Very high out of band selectivity
- Unbalanced to unbalanced operation
- No matching network required for operation at 50 Ω



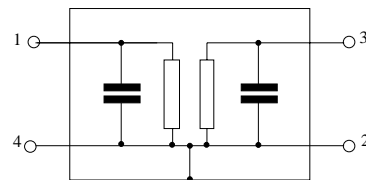
Features

- Package size 2.0 x 1.6 x 0.86. mm³
- Package code DCS4M
- RoHS compatible
- Approximate weight 0.007 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- **Electrostatic Sensitive Device (ESD)**



Pin configuration

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



Please read *cautions and warnings and important notes* at the end of this document.



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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

		B9080			
		min.	typ. @ 25 °C	max.	
Center frequency	f _C	—	1575.42	—	MHz
Maximum insertion attenuation	α _{max}	—	1.2	1.5	dB
1574.42 ... 1576.42 MHz					
Amplitude ripple (p-p)	Δα	—	0.1	0.4	dB
1573.42 ... 1577.42 MHz					
VSWR (Input and Output)		—	1.35	1.8	
1574.42 ... 1576.42 MHz					
IIP2 (2nd order Input Intercept Point)					
2 tone (cw) method:					
P1 @ +22.5dBm @ F1=824MHz..915MHz					
P2 @ -0.5dBm @ F2=F1+1575.42MHz					
		110.5	117.8	—	dBm
Attenuation	α				
0.1 ... 824.0 MHz		48	57	—	dB
824.0 ... 849.0 MHz		50	57	—	dB
849.0 ... 915.0 MHz		50	56	—	dB
915.0 ... 1400.0 MHz		48	55	—	dB
1611.0 ... 1648.0 MHz		6	13	—	dB
1648.0 ... 1710.0 MHz		45	61	—	dB
1710.0 ... 1785.0 MHz		53	61	—	dB
1785.0 ... 1850.0 MHz		46	61	—	dB
1850.0 ... 1910.0 MHz		46	62	—	dB
1910.0 ... 1980.0 MHz		46	61	—	dB
1980.0 ... 2400.0 MHz		43	51	—	dB
2400.0 ... 2484.0 MHz		43	50	—	dB
2484.0 ... 2570.0 MHz		42	48	—	dB
2570.0 ... 3900.0 MHz		33	41	—	dB
3900.0 ... 5150.0 MHz		15	27	—	dB
5150.0 ... 5825.0 MHz		10	15	—	dB
((824 - 849) + (2400 - 2484))/2 MHz		45	53.5	—	dB
((849 - 915) + (2400 - 2484))/2 MHz		45	53	—	dB



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Maximum ratings of Filter

Operable temperature range	T	-30/+85	°C	
Storage temperature range	T _{stg}	-40/+85	°C	
DC voltage	V _{DC}	5	V	
ESD voltage @ Input				
Contact Discharge	V _{ESD}	± 8 ¹⁾	kV	at input pin 1
Machine Model	V _{ESD}	± 1000 ²⁾	V	at input pin 1
Machine Model	V _{ESD}	± 100 ²⁾	V	at output pin 3
Charge Device Model	V _{ESD}	± 500 ³⁾	V	at input and output (pin 1 and 3)
Input power				
WCDMA systems	P _{IN}	30	dBm	Average, cw
TDMA systems	P _{IN}	36	dBm	Peak, max. duty cycle 1:2

- 1) acc. to IEC61000-4-2 (Contact discharge, R_s = 330 Ω, C_s = 150 pF), 10 negative & 10 positive pulses.
- 2) acc. to JESD22-A115A (machine model, R_s = 0 Ω, C_s = 200 pF), 10 negative & 10 positive pulses.
- 3) acc. to JESD22-C101 (charge device model)



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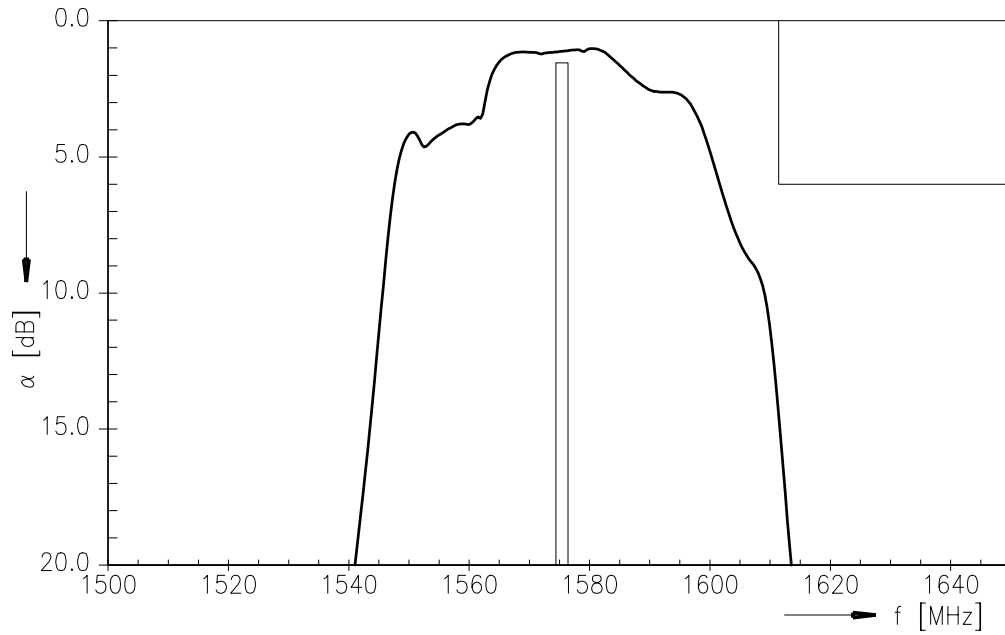
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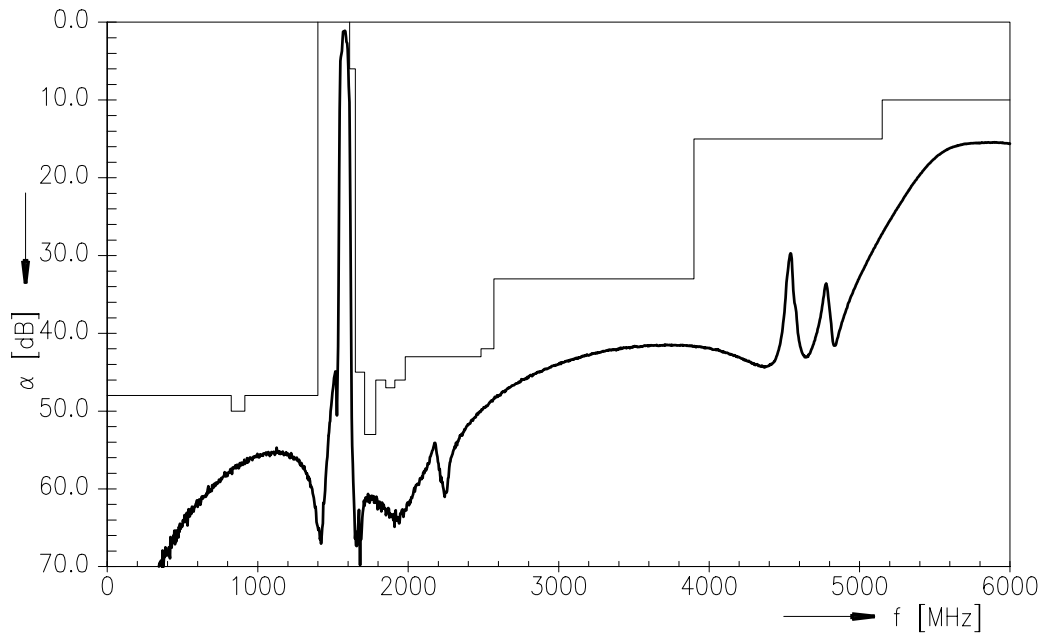
Data Sheet



Transfer function (passband)



Transfer function



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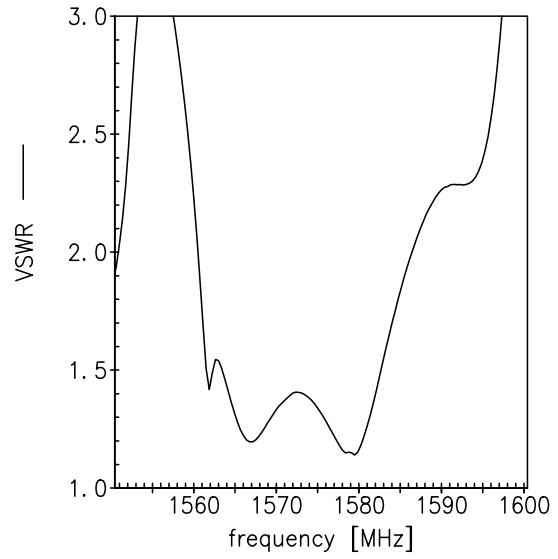
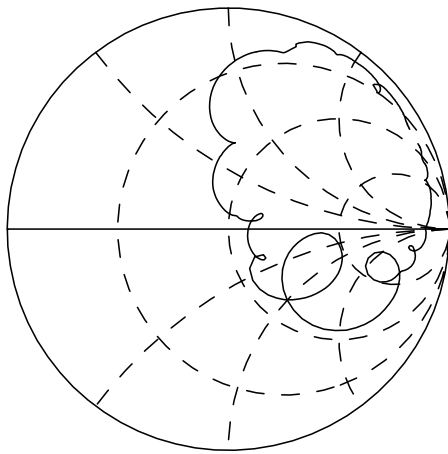


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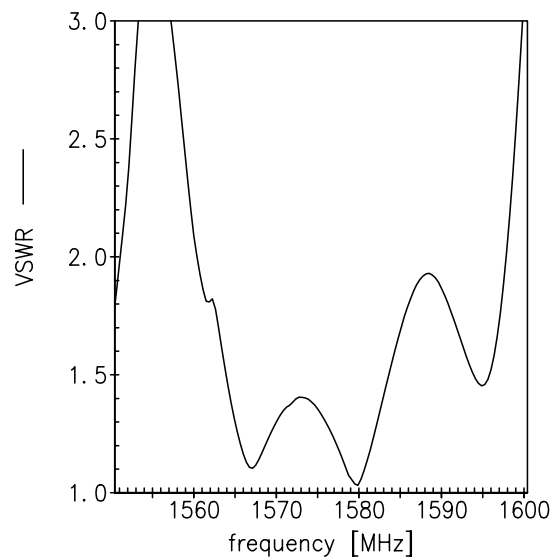
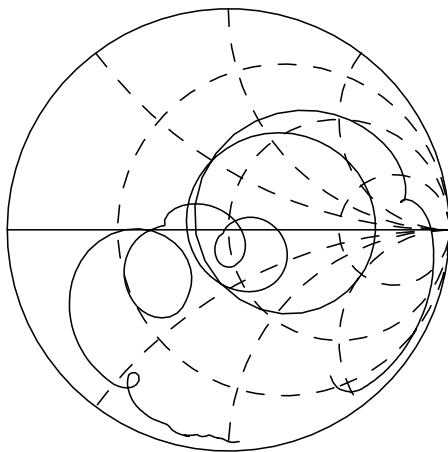


Smith chart / VSWR

S₁₁ function



S₂₂ function





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References

Type	B9080
Ordering code	B39162B9080L310
Marking and package	C61157-A7-A151
Packaging	F61074-V8224-Z000
Date codes	L_1126
S-parameters	B9080_NB.s2p, B9080_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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