EPCOS

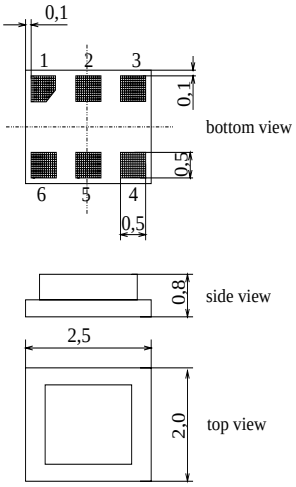
SAW Components

Data Sheet B7710

Chip sized SAW package DCS6l

Features

- Low-loss RF filter for mobile telephone EGSM systems, receive path
- Low amplitude ripple
- Usable passband 35 MHz
- Unbalanced to balanced operation
- No external matching required
- Ceramic package for **S**urface **M**ounted **T**echnology (**SMT**)



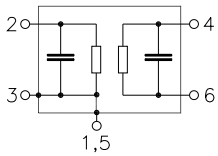
Terminals

- Ni, gold-plated

Dimensions in mm, approx. weight 0,014g

Pin configuration

2	Input, unbalanced
4, 6	Balanced outputs
1, 3, 5	To be grounded
1, 5	Case ground



Type	Ordering code	Marking and Package according to	Packing according to
B7710	B39941-B7710-C610	C61157-A7-A76	F61074-V8112-Z000

Electrostatic **S**ensitive **D**evice (**ESD**)

Maximum ratings

Operable temperature range	T	– 10 / + 80	˚C	
Storage temperature range	T_{stg}	– 40 / + 85	˚C	
DC voltage	V_{DC}	5	V	
ESD voltage	V_{ESD}	200	V	
Input power max.				>2000 hrs at 85˚C
@ 880 ... 915 MHz		13		source and load impedance 50 Ω
@ 1710...1785 MHz	P_{IN}	13	dBm	peak power of GSM signal,
@ 1850...1910 MHz		13		duty cycle 2 : 8,
elsewhere		0	dBm	continuous wave

Characteristics

Operating temperature range: T = 25 ± 2°C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω (balanced)

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	α_{max}				
925,0 ... 960,0 MHz		—	3,0	3,3	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
925,0 ... 960,0 MHz		—	1,1	1,4	dB
VSWR					
925,0 ... 960,0 MHz		—	1,7	2,0	
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180°$)					
925,0 ... 960,0 MHz		-10	—	10	°
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
925,0 ... 960,0 MHz		-1,0	—	1,0	dB
Diff. to common mode suppression	S_{sc12}				
925,0 ... 960,0 MHz		20	25	—	dB
855,0 ... 995,0 MHz		20	25	—	dB
1710,0 ... 1990,0 MHz		20	54	—	dB
3420,0 ... 3980,0 MHz		20	40	—	dB
Attenuation	α				
0,0 ... 850,0 MHz		50	59	—	dB
850,0 ... 905,0 MHz		35	47	—	dB
905,0 ... 915,0 MHz		18	30	—	dB
980,0 ...1000,0 MHz		23	30	—	dB
1000,0 ...1050,0 MHz		30	40	—	dB
1050,0 ...2000,0 MHz		40	45	—	dB
2000,0 ...3000,0 MHz		30	35	—	dB
3000,0 ...4000,0 MHz		20	28	—	dB
4000,0 ...6000,0 MHz		15	22	—	dB

Characteristics

Operating temperature range: T = +10˚C to +60˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω (balanced)

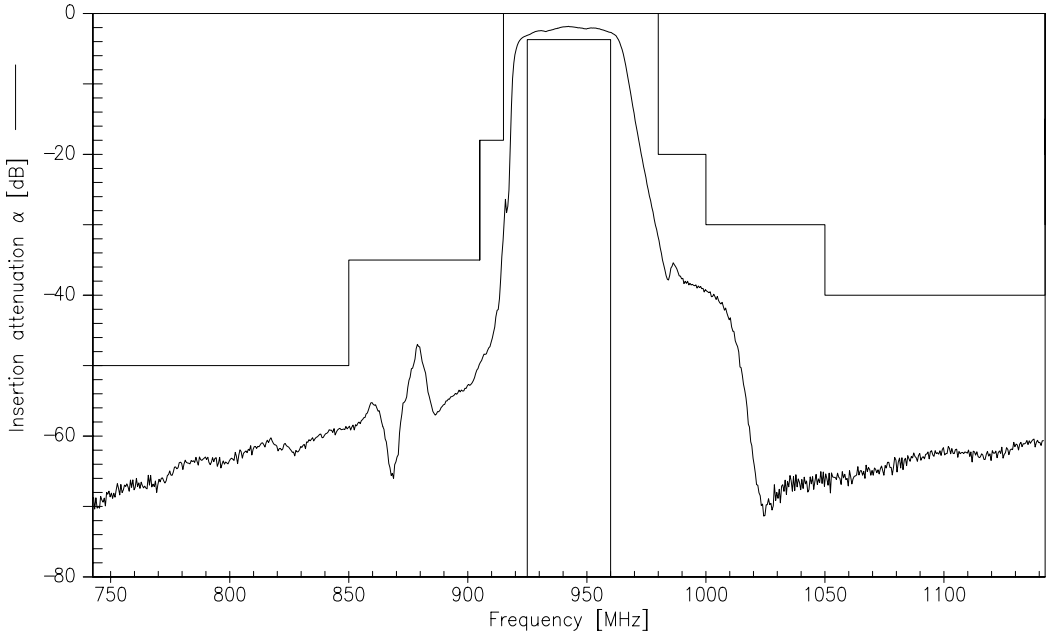
		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	α_{max}				
925,0 ... 960,0 MHz		—	3,1	3,5	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
925,0 ... 960,0 MHz		—	1,2	1,6	dB
VSWR					
925,0 ... 960,0 MHz		—	1,7	2,0	
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180^\circ$)					
925,0 ... 960,0 MHz		-10	—	10	˚
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
925,0 ... 960,0 MHz		-1,0	—	1,0	dB
Diff. to common mode suppression	S_{sc12}				
925,0 ... 960,0 MHz		20	25	—	dB
855,0 ... 995,0 MHz		20	25	—	dB
1710,0 ... 1990,0 MHz		20	54	—	dB
3420,0 ... 3980,0 MHz		20	40	—	dB
Attenuation	α				
0,0 ... 850,0 MHz		50	59	—	dB
850,0 ... 905,0 MHz		35	47	—	dB
905,0 ... 915,0 MHz		18	26	—	dB
980,0 ...1000,0 MHz		20	31	—	dB
1000,0 ...1050,0 MHz		30	40	—	dB
1050,0 ...2000,0 MHz		40	45	—	dB
2000,0 ...3000,0 MHz		30	35	—	dB
3000,0 ...4000,0 MHz		20	28	—	dB
4000,0 ...6000,0 MHz		15	22	—	dB

Characteristics

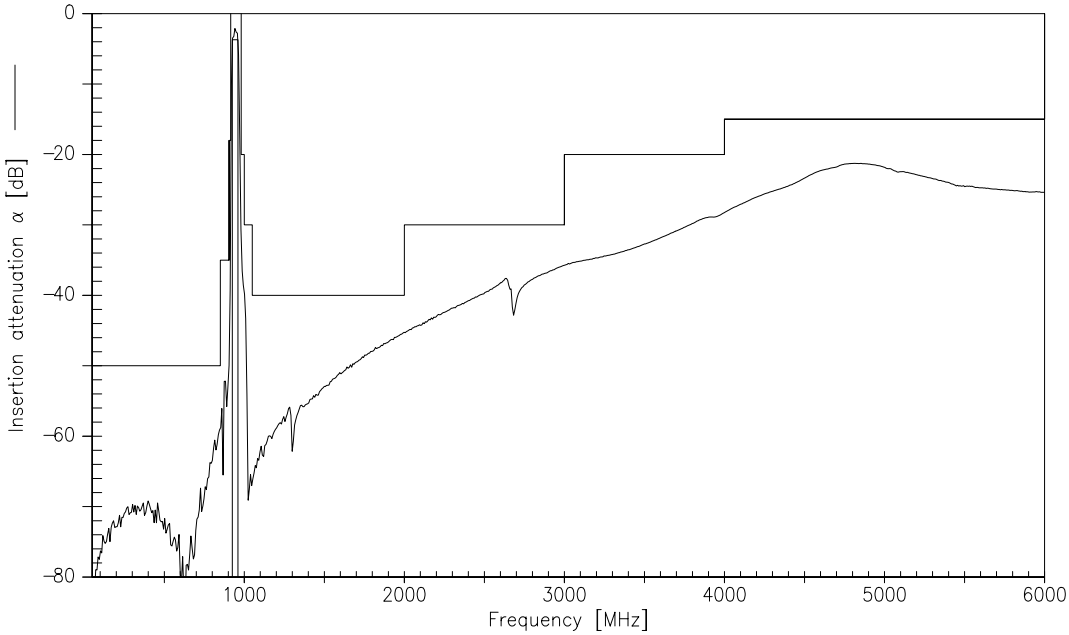
Operating temperature range: T = -10˚C to +80˚C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω (balanced)

		min.	typ.	max.	
Center frequency	f_C	—	942,5	—	MHz
Maximum insertion attenuation	α_{max}				
925,0 ... 960,0 MHz		—	3,2	3,7	dB
Amplitude ripple (p-p)	$\Delta\alpha$				
925,0 ... 960,0 MHz		—	1,2	2,0	dB
VSWR					
925,0 ... 960,0 MHz		—	1,7	2,0	
Output phase balance ($\phi(S_{31})-\phi(S_{21})+180^\circ$)					
925,0 ... 960,0 MHz		-10	—	10	˚
Output amplitude balance ($\lvert S_{31}/S_{21}\rvert$)					
925,0 ... 960,0 MHz		-1,0	—	1,0	dB
Diff. to common mode suppression	S_{sc12}				
925,0 ... 960,0 MHz		20	25	—	dB
855,0 ... 995,0 MHz		20	25	—	dB
1710,0 ... 1990,0 MHz		20	54	—	dB
3420,0 ... 3980,0 MHz		20	40	—	dB
Attenuation	α				
0,0 ... 850,0 MHz		50	59	—	dB
850,0 ... 905,0 MHz		35	47	—	dB
905,0 ... 915,0 MHz		18	26	—	dB
980,0 ...1000,0 MHz		20	29	—	dB
1000,0 ...1050,0 MHz		30	40	—	dB
1050,0 ...2000,0 MHz		40	45	—	dB
2000,0 ...3000,0 MHz		30	35	—	dB
3000,0 ...4000,0 MHz		20	28	—	dB
4000,0 ...6000,0 MHz		15	22	—	dB

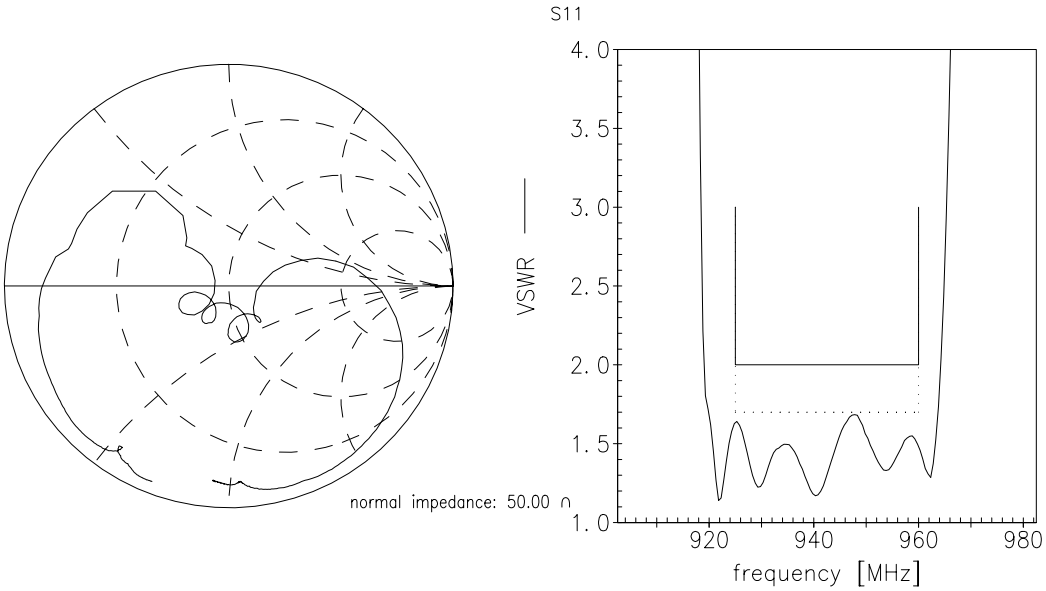
Transfer function (measurement)

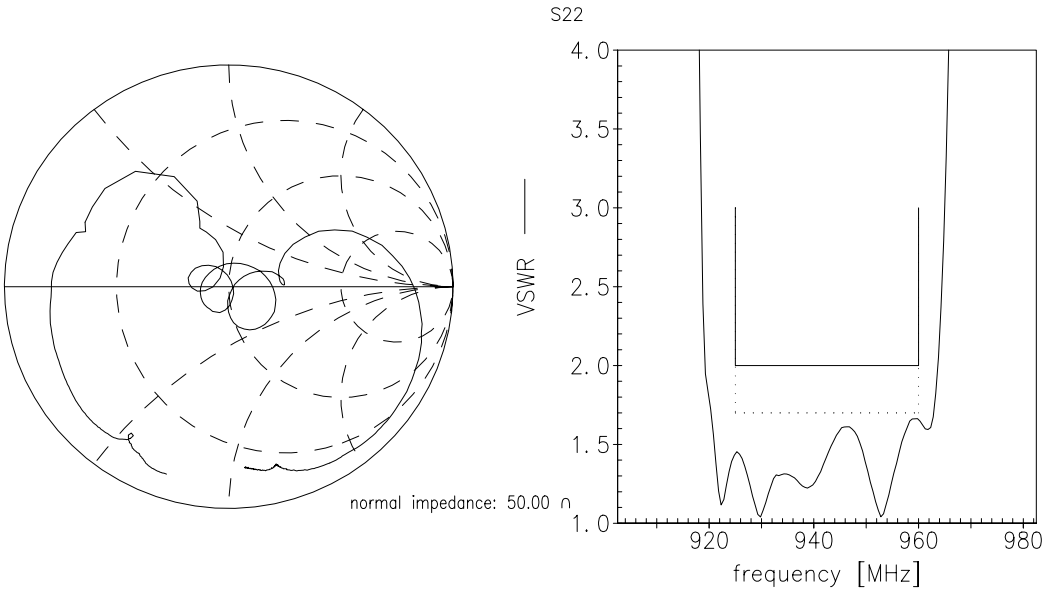


Transfer function (wideband measurement)



Matching (measurement)





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