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# *SAW Components*

*Data Sheet B7710*

Data Sheet

A large, stylized, 3D-rendered graphic of the EPCOS logo. The letters "EPCOS" are rendered in a white, glowing, sans-serif font, appearing to be part of a larger, curved structure that resembles the company's logo symbol. The background is dark and textured, with a faint map of the world visible.



**SAW Components**

**B7710**

**Low-Loss Filter for Mobile Communication**

**942,5 MHz**

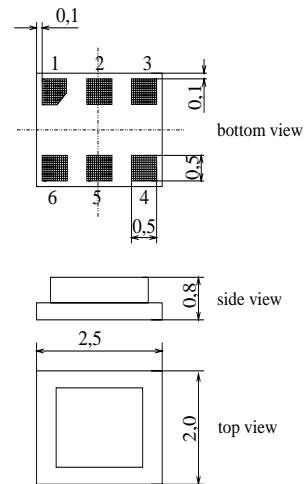
**Data Sheet**



**Chip sized SAW package DCS6I**

**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 **Surface Mounted Technology (SMT)**



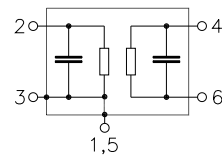
**Terminals**

- 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 Sensitive Device (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.				
@ 880 ... 915 MHz	$P_{IN}$	13	dBm	>2000 hrs at 85°C source and load impedance 50 Ω peak power of GSM signal, duty cycle 2 : 8,
@ 1710...1785 MHz		13		
@ 1850...1910 MHz		13		
elsewhere		0	dBm	continuous wave



**Characteristics**

Operating temperature range:  $T = 25 \pm 2^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 50 \Omega$   
 Terminating load impedance:  $Z_L = 50 \Omega$  (balanced)

		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	942,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$				
	925,0 ... 960,0 MHz	—	3,0	3,3	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
	925,0 ... 960,0 MHz	—	1,1	1,4	dB
<b>VSWR</b>					
	925,0 ... 960,0 MHz	—	1,7	2,0	
<b>Output phase balance</b> ( $\phi(S_{31}) - \phi(S_{21}) + 180^\circ$ )					
	925,0 ... 960,0 MHz	-10	—	10	°
<b>Output amplitude balance</b> ( $ S_{31}/S_{21} $ )					
	925,0 ... 960,0 MHz	-1,0	—	1,0	dB
<b>Diff. to common mode suppression</b>	$S_{sc12}$				
	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
<b>Attenuation</b>	$\alpha$				
	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:  $T = +10^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$   
 Terminating source impedance:  $Z_S = 50 \Omega$   
 Terminating load impedance:  $Z_L = 50 \Omega$  (balanced)

		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	942,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$				
925,0 ... 960,0 MHz		—	3,1	3,5	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
925,0 ... 960,0 MHz		—	1,2	1,6	dB
<b>VSWR</b>					
925,0 ... 960,0 MHz		—	1,7	2,0	
<b>Output phase balance</b> ( $\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$ )					
925,0 ... 960,0 MHz		-10	—	10	$^{\circ}$
<b>Output amplitude balance</b> ( $ S_{31}/S_{21} $ )					
925,0 ... 960,0 MHz		-1,0	—	1,0	dB
<b>Diff. to common mode suppression</b>	$S_{sc12}$				
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
<b>Attenuation</b>	$\alpha$				
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



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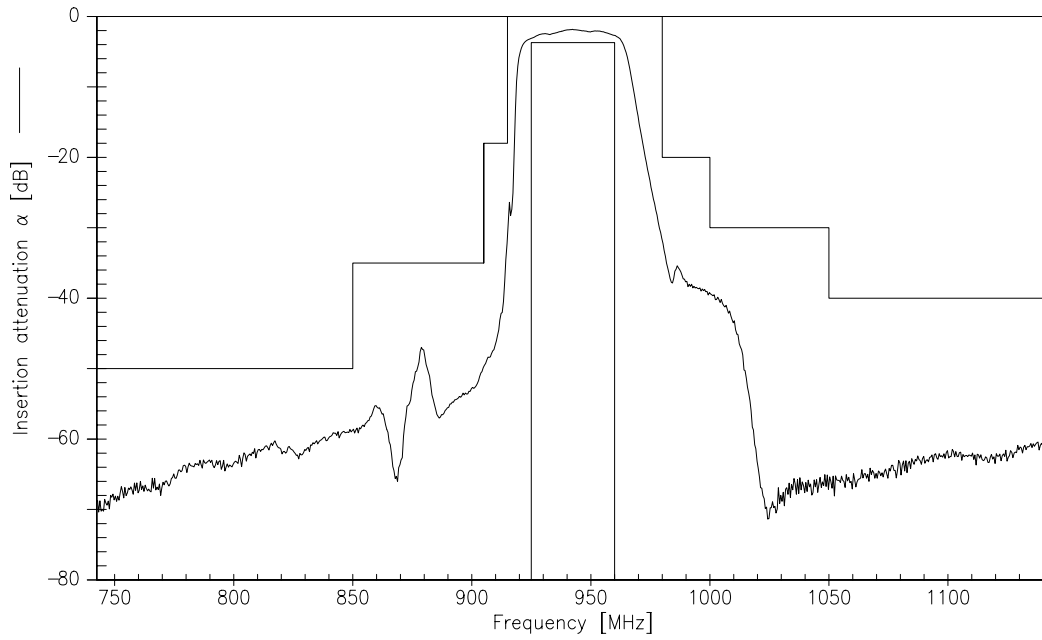
**Characteristics**

Operating temperature range:  $T = -10^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$   
 Terminating load impedance:  $Z_L = 50\ \Omega$  (balanced)

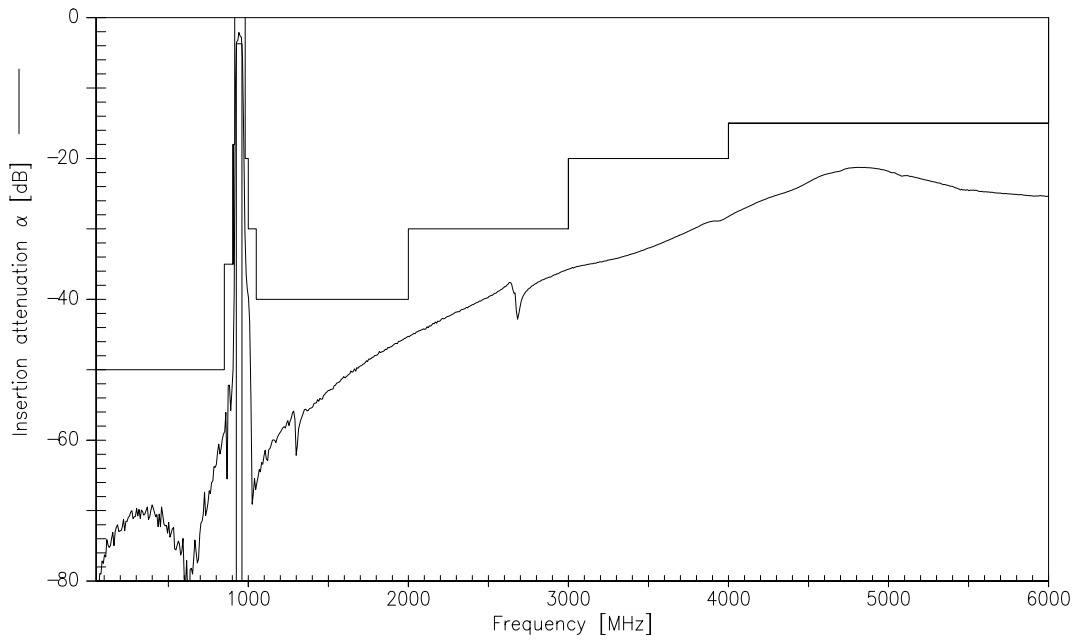
		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	942,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$				
925,0 ... 960,0 MHz		—	3,2	3,7	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$				
925,0 ... 960,0 MHz		—	1,2	2,0	dB
<b>VSWR</b>					
925,0 ... 960,0 MHz		—	1,7	2,0	
<b>Output phase balance (<math>\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}</math>)</b>					
925,0 ... 960,0 MHz		-10	—	10	$^{\circ}$
<b>Output amplitude balance (<math> S_{31}/S_{21} </math>)</b>					
925,0 ... 960,0 MHz		-1,0	—	1,0	dB
<b>Diff. to common mode suppression</b>	$S_{sc12}$				
925,0 ... 960,0 MHz		20	25	—	dB
855,0 ... 995,0 MHz		20	25	—	dB
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<b>Attenuation</b>	$\alpha$				
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)

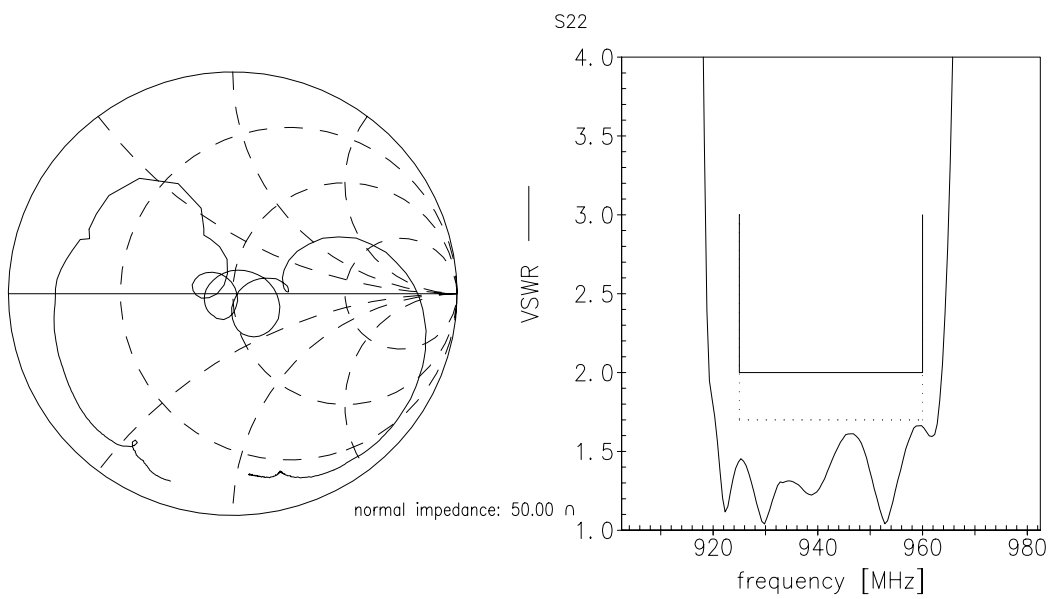
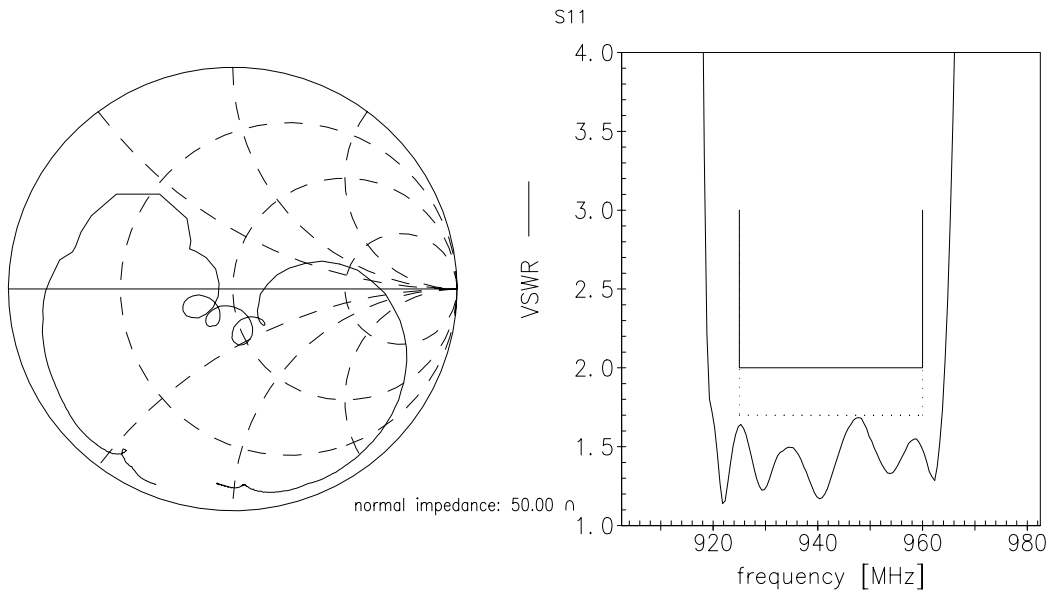


Transfer function (wideband measurement)





Matching (measurement)







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