



# SAW Components

Data Sheet B7710

Data Sheet

A large, stylized, 3D-rendered graphic of the EPCOS logo. The letters "EPCOS" are in a bold, sans-serif font, appearing to be part of a larger, curved structure that resembles a stylized globe or a series of overlapping planes. The graphic is rendered in a light gray color against a dark, textured background.



## SAW Components

**B7710**

## Low-Loss Filter for Mobile Communication

**942,5 MHz**

### Data Sheet



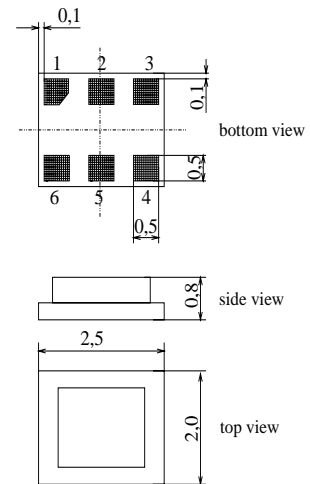
### Chip sized SAW package DCS6I

#### 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

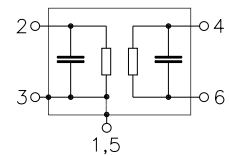
- Ni, gold-plated



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



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### 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



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### 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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Operating temperature range:  $T = -10^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$   
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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
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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



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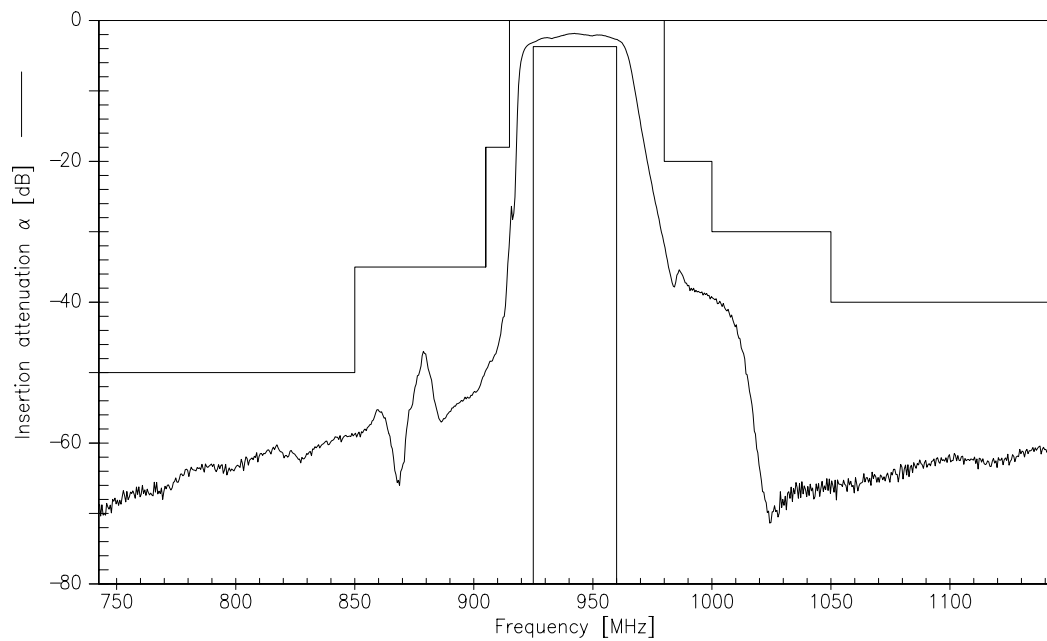
Low-Loss Filter for Mobile Communication

942,5 MHz

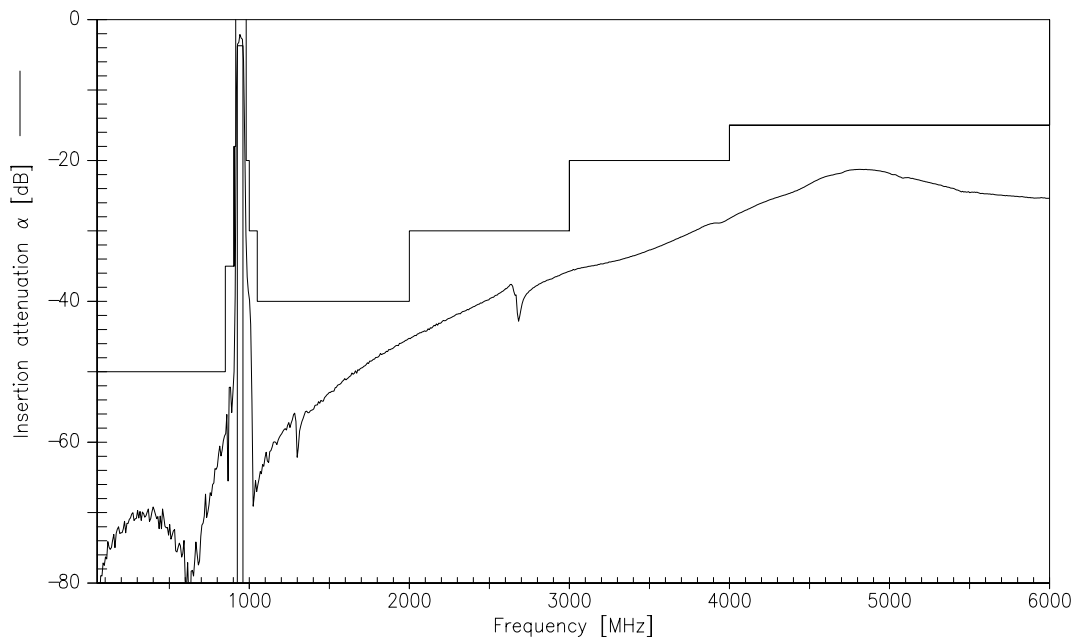
Data Sheet



### Transfer function (measurement)



### Transfer function (wideband measurement)





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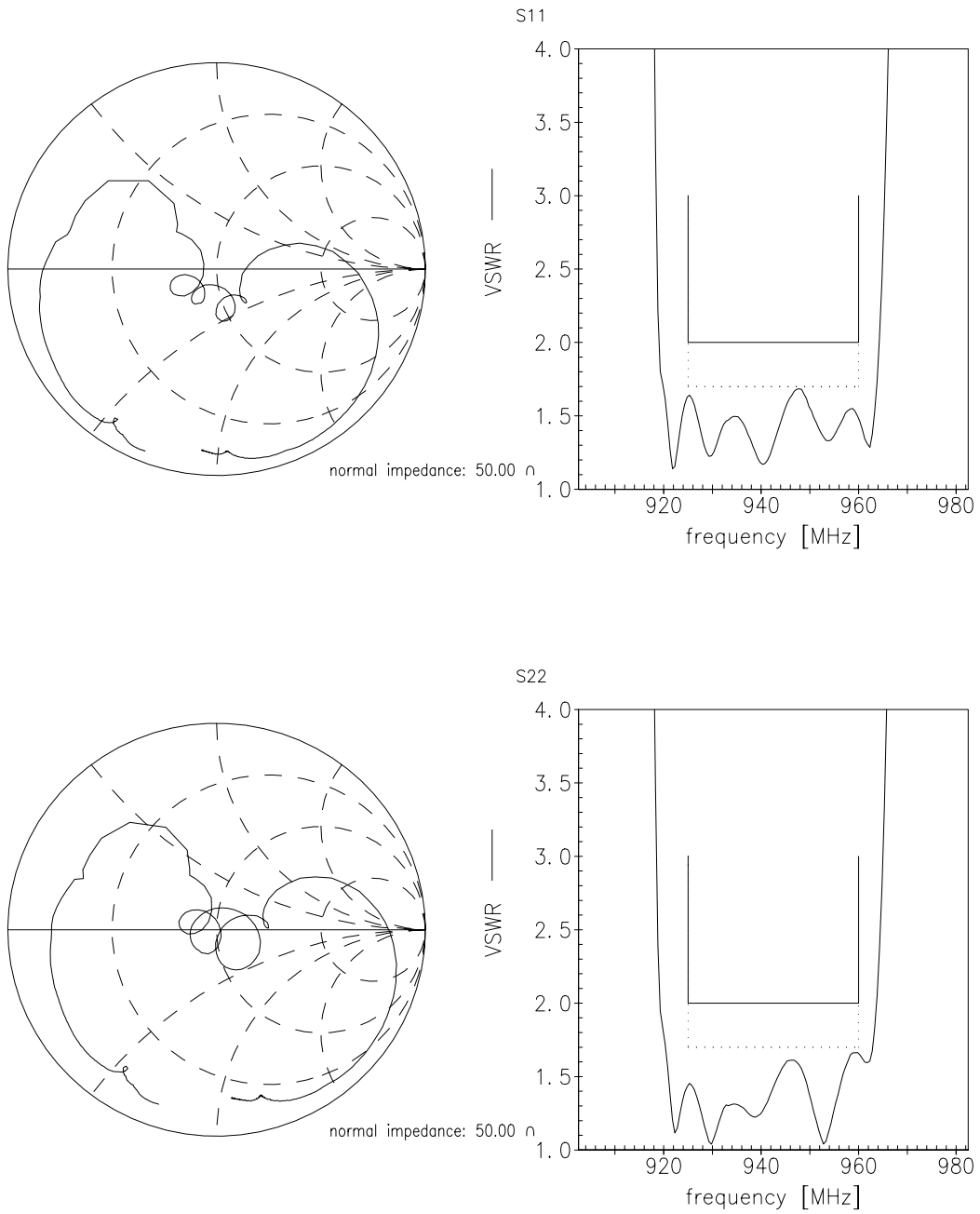
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942,5 MHz

Data Sheet



### Matching (measurement)





<b>SAW Components</b>	<b>B7710</b>
<b>Low-Loss Filter for Mobile Communication</b>	<b>942,5 MHz</b>
<b>Data Sheet</b>	<b>SMD</b>

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