



# *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 a stylized globe or a series of overlapping planes. 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**

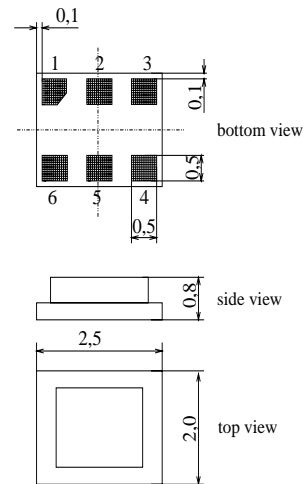
**Data Sheet**



**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)**



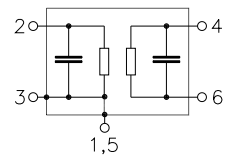
**Terminals**

- 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	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



SAW Components

B7710

Low-Loss Filter for Mobile Communication

942,5 MHz

Data Sheet



**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



SAW Components

B7710

Low-Loss Filter for Mobile Communication

942,5 MHz

Data Sheet



**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 (<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
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



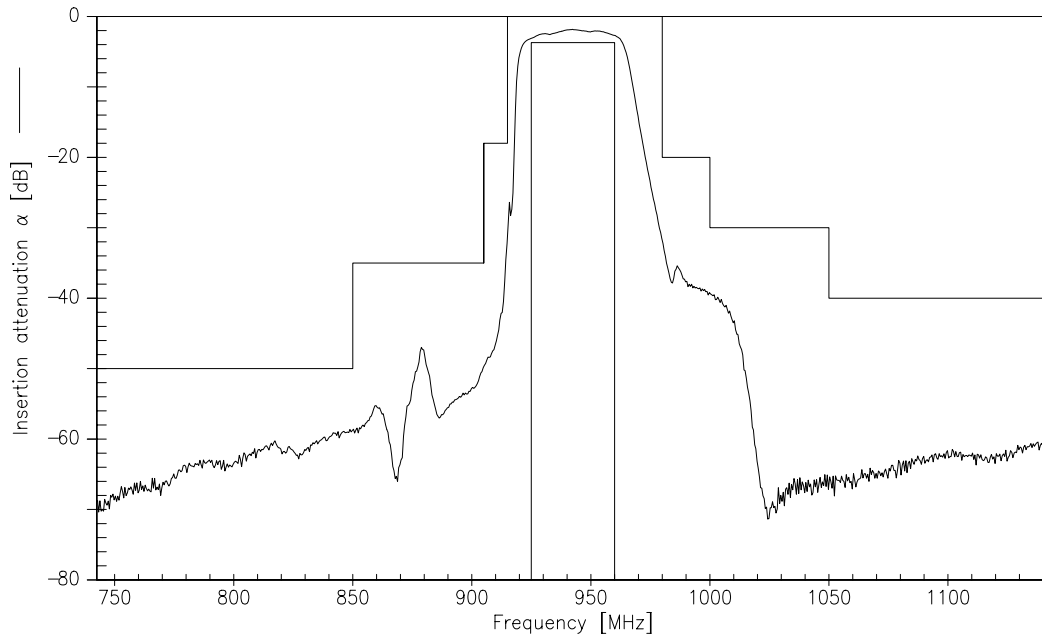
**Characteristics**

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)

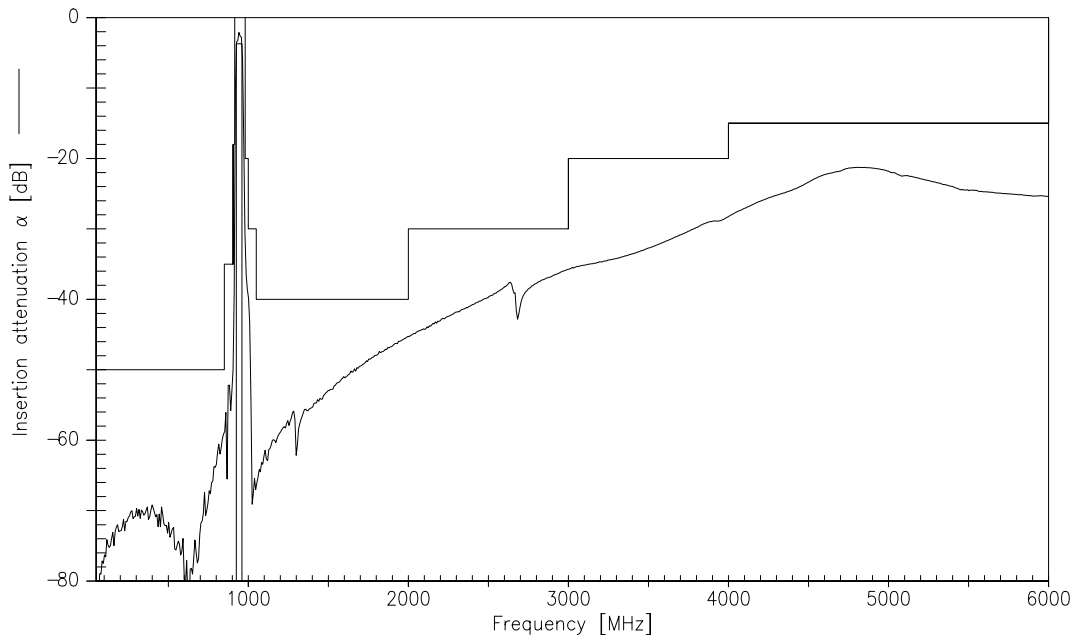
		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	942,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	3,2	3,7	dB
925,0 ... 960,0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	1,2	2,0	dB
925,0 ... 960,0 MHz					
<b>VSWR</b>		—	1,7	2,0	
925,0 ... 960,0 MHz					
<b>Output phase balance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



Transfer function (measurement)

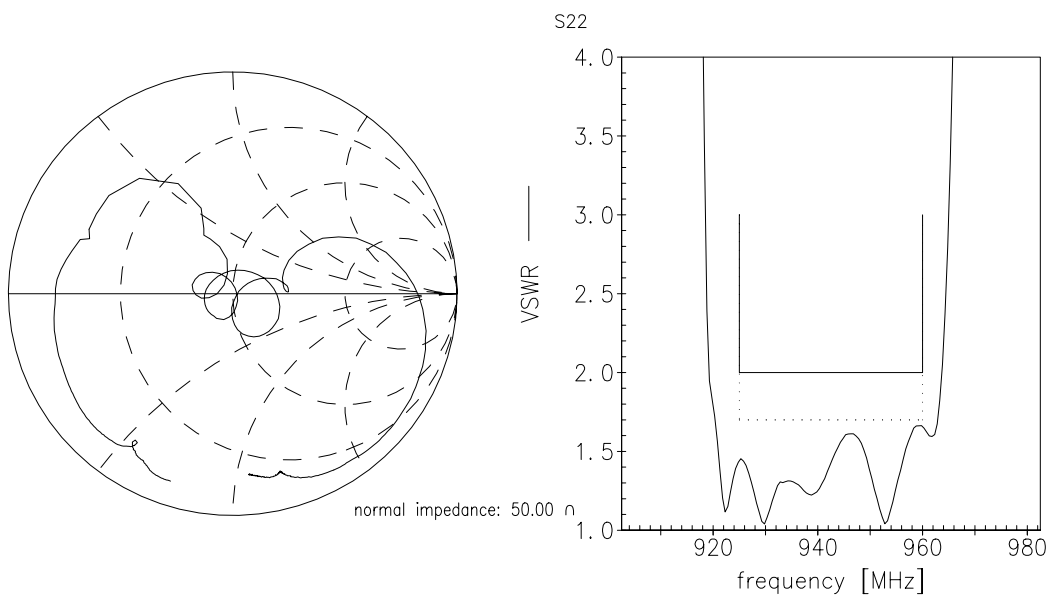
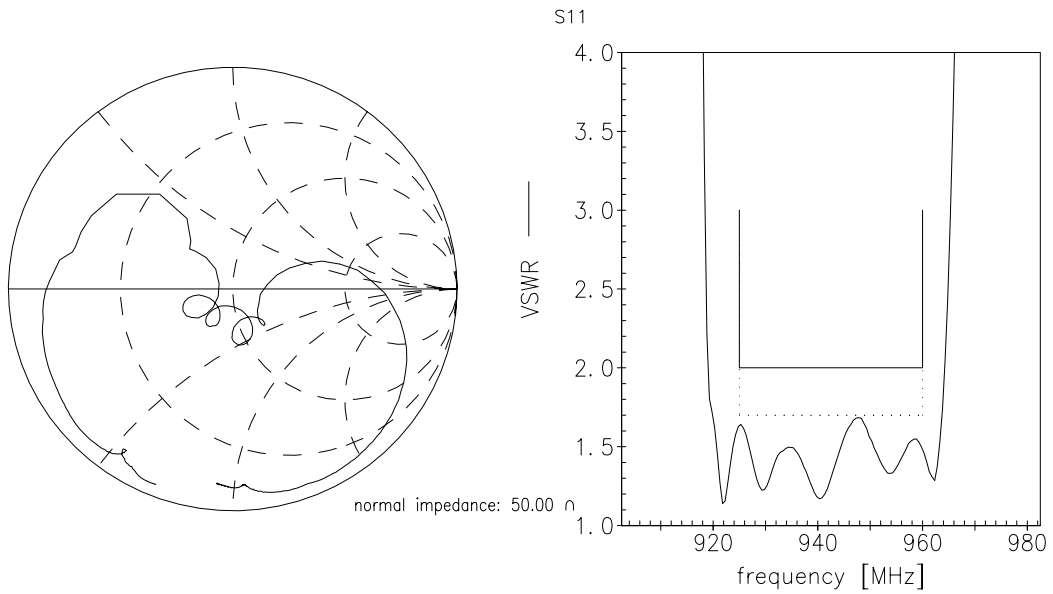


Transfer function (wideband measurement)





Matching (measurement)





**SAW Components**

**B7710**

**Low-Loss Filter for Mobile Communication**

**942,5 MHz**

Data Sheet



**Published by EPCOS AG**

**Surface Acoustic Wave Components Division, SAW MC WT**

**P.O. Box 80 17 09, D-81617 München**

© EPCOS AG 2000. All Rights Reserved. Reproduction, publication and dissemination of this brochure and the information contained therein without EPCOS' prior express consent is prohibited.

The information contained in this brochure describes the type of component and shall not be considered as guaranteed characteristics. Purchase orders are subject to the General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry recommended by the ZVEI (German Electrical and Electronic Manufacturers' Association), unless otherwise agreed.

This brochure replaces the previous edition.

For questions on technology, prices and delivery please contact the Sales Offices of EPCOS AG or the international Representatives.

Due to technical requirements components may contain dangerous substances. For information on the type in question please also contact one of our Sales Offices.