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# SAW Components

Data Sheet B7710

Data Sheet





## SAW Components

B7710

### Low-Loss Filter for Mobile Communication

942,5 MHz

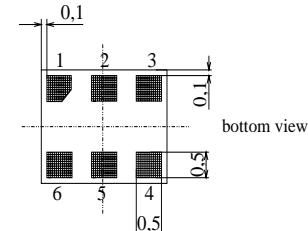
#### Data Sheet



#### Chip sized SAW package DCS61

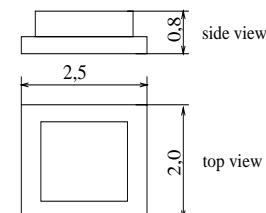
##### Features

- 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

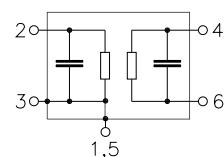
- Ni, gold-plated



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 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		SMD		
<b>Characteristics</b>				
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)		
<b>Center frequency</b>	$f_C$	—	942,5	— MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	3,0	3,3 dB
925,0 ... 960,0 MHz				
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	1,1	1,4 dB
925,0 ... 960,0 MHz				
<b>VSWR</b>		—	1,7	2,0
925,0 ... 960,0 MHz				
<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



<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>

### 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)

			<b>min.</b>	<b>typ.</b>	<b>max.</b>	
<b>Center frequency</b>		$f_C$	—	942,5	—	MHz
<b>Maximum insertion attenuation</b>		$\alpha_{\max}$	—	3,1	3,5	dB
	925,0 ... 960,0	MHz				
<b>Amplitude ripple (p-p)</b>		$\Delta\alpha$	—	1,2	1,6	dB
	925,0 ... 960,0	MHz				
<b>VSWR</b>			—	1,7	2,0	
	925,0 ... 960,0	MHz				
<b>Output phase balance</b> ( $\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$ )			-10	—	10	°
	925,0 ... 960,0	MHz				
<b>Output amplitude balance</b> ( $ S_{31}/S_{21} $ )			-1,0	—	1,0	dB
	925,0 ... 960,0	MHz				
<b>Diff. to common mode suppression</b>		$S_{sc12}$	20	25	—	dB
	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>		$\alpha$	50	59	—	dB
	0,0 ... 850,0	MHz	35	47	—	dB
	850,0 ... 905,0	MHz	18	26	—	dB
	905,0 ... 915,0	MHz	20	31	—	dB
	980,0 ... 1000,0	MHz	30	40	—	dB
	1000,0 ... 1050,0	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



<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>

### Characteristics

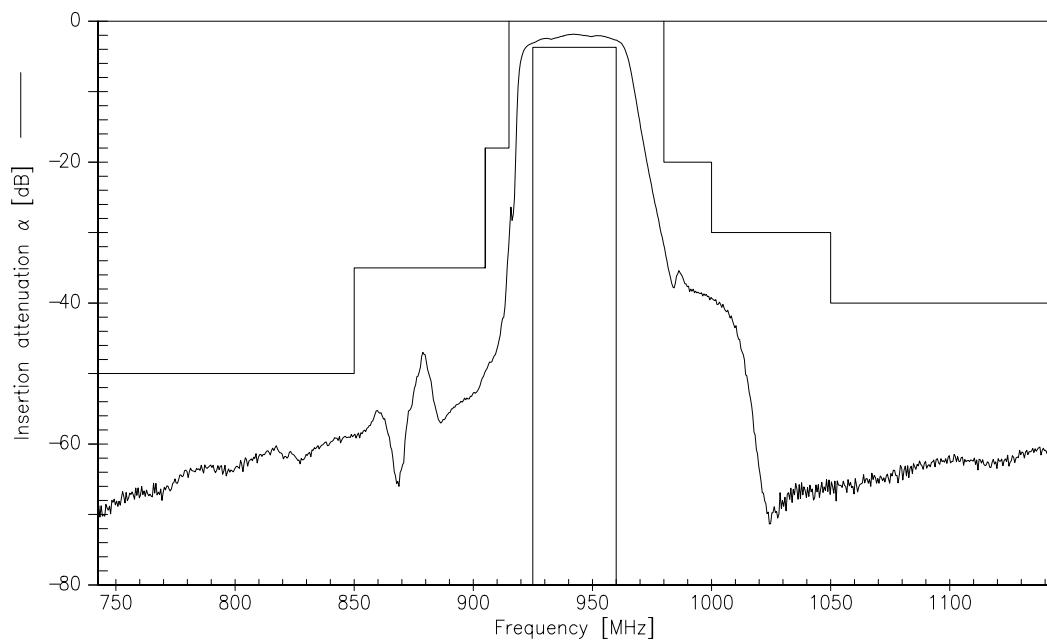
Operating temperature range:  $T = -10^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$   
 Terminating source impedance:  $Z_S = 50 \Omega$   
 Terminating load impedance:  $Z_L = 50 \Omega$  (balanced)

			<b>min.</b>	<b>typ.</b>	<b>max.</b>	
<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</b> ( $\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$ )			-10	—	10	°
	925,0 ... 960,0	MHz				
<b>Output amplitude balance</b> ( $ S_{31}/S_{21} $ )			-1,0	—	1,0	dB
	925,0 ... 960,0	MHz				
<b>Diff. to common mode suppression</b>		$S_{sc12}$	20	25	—	dB
	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>		$\alpha$	50	59	—	dB
	0,0 ... 850,0	MHz	35	47	—	dB
	850,0 ... 905,0	MHz	18	26	—	dB
	905,0 ... 915,0	MHz	20	29	—	dB
	980,0 ... 1000,0	MHz	30	40	—	dB
	1000,0 ... 1050,0	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

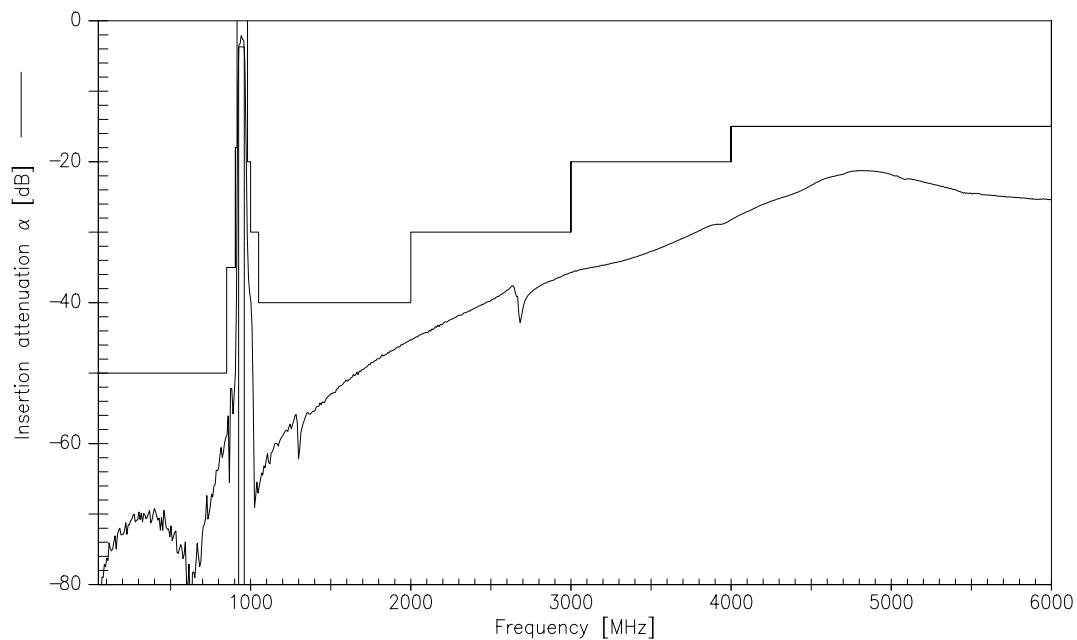


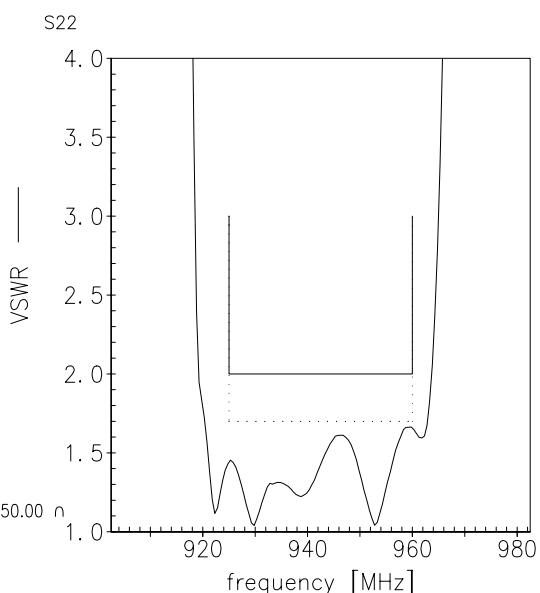
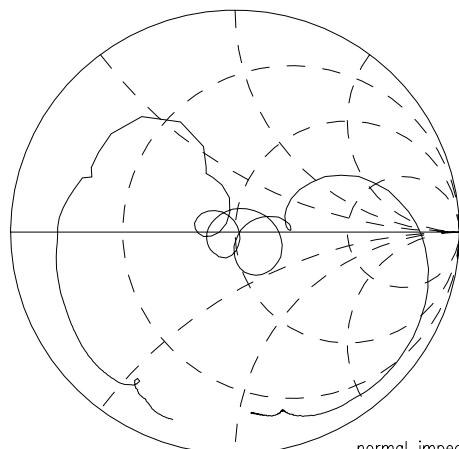
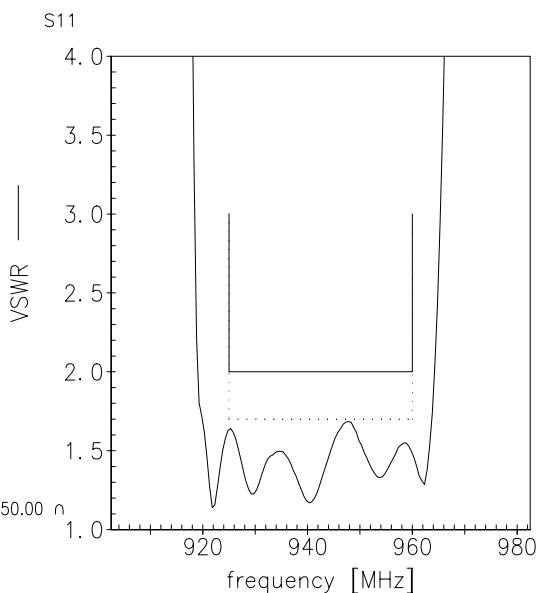
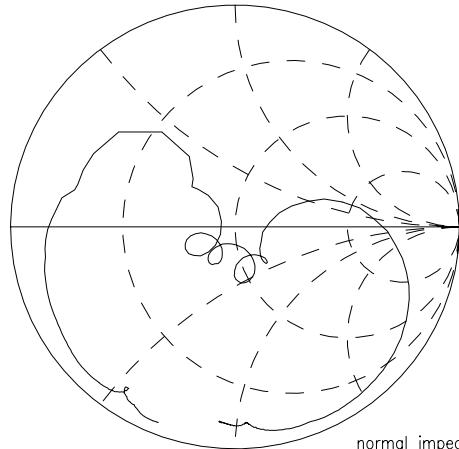
**SAW Components** **B7710**  
**Low-Loss Filter for Mobile Communication** **942,5 MHz**  
**Data Sheet** **SMD**

**Transfer function (measurement)**



**Transfer function (wideband measurement)**



**SAW Components****B7710****Low-Loss Filter for Mobile Communication****942,5 MHz****Data Sheet****SMD****Matching (measurement)**



<b>SAW Components</b>	<b>B7710</b>
<b>Low-Loss Filter for Mobile Communication</b>	<b>942,5 MHz</b>
Data Sheet	 The logo for Surface Mount Device (SMD), consisting of the letters "SMD" in a bold, sans-serif font with a horizontal line through the "S".

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