



# SAW Components

Data Sheet B7709

Data Sheet

A large, semi-transparent watermark graphic is centered on the page. It features a stylized globe with visible continents and a grid pattern. Overlaid on the globe is the word "EPCOS" in a large, white, serif font. The letters are slightly curved and overlap each other, creating a sense of depth. The background of the entire page is a dark gray color.



## SAW Components

B7709

### Low-Loss Filter for Mobile Communication

1960,0 MHz

#### Data Sheet



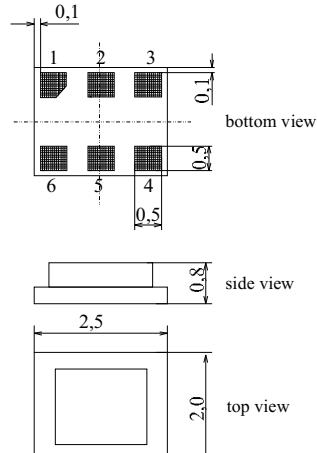
#### Features

- Low-loss RF filter for mobile telephone  
PCS systems, receive path
- High selectivity
- Low amplitude ripple
- Usable passband 60 MHz
- Unbalanced to balanced operation
- No external matching required
- Package for Surface Mounted Technology  
(SMT)

#### Terminals

- Gold-plated Ni

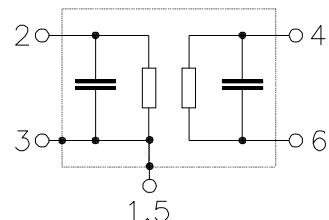
#### Chip Sized SAW Package DCS6I



Dimensions in mm, approx. weight 0,014 g

#### Pin configuration

- |         |                 |
|---------|-----------------|
| 2       | Input           |
| 4, 6    | Balanced output |
| 1, 3, 5 | To be grounded  |



Type	Ordering code	Marking and Package according to	Packing according to
B7709	B39202-B7709-C610	C61157-A7-A76	F61074-V8112-Z000

#### Electrostatic Sensitive Device (ESD)

#### Maximum ratings

Operable temperature range	$T$	-30 / +85	°C	
Storage temperature range	$T_{stg}$	-40 / +85	°C	
DC voltage	$V_{DC}$	5	V	
ESD voltage	$V_{ESD}$	50	V	
Input power max.				
880 ... 915 MHz		13	dBm	source and load impedance 50 Ω
1710 ... 1785 MHz	$P_{IN}$	13	dBm	peak power of GSM signal,
1850 ... 1910 MHz		13	dBm	duty cycle 2 : 8
elsewhere		0	dBm	continuous wave



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## Characteristics

Operating Temperature Range:  $T = +25 \pm 2^\circ\text{C}$   
Terminating source impedance:  $Z_s = 50 \Omega$  (unbalanced)  
Terminating load impedance:  $Z_L = 50 \Omega$  (balanced)

		min.	typ.	max.	
<b>Center frequency</b>	$f_c$	—	1960,0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	3,5	3,9	dB
	1930,0 ... 1990,0 MHz	—	3,5	3,9	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	1,1	1,5	dB
	1930,0 ... 1990,0 MHz	—	1,1	1,5	dB
<b>Input VSWR</b>		—	2,0	2,2	
	1930,0 ... 1990,0 MHz	—	2,0	2,2	
<b>Output VSWR</b>		—	2,0	2,2	
	1930,0 ... 1990,0 MHz	—	2,0	2,2	
<b>Differential to common mode suppression</b>	$S_{sc12}$	—	—	—	
	1930,0 ... 1990,0 MHz	—	18	—	dB
	855,0 ... 995,0 MHz	—	29	—	dB
	1710,0 ... 1990,0 MHz	—	18	—	dB
	3420,0 ... 3980,0 MHz	—	29	—	dB
<b>Attenuation</b>	$\alpha$	—	—	—	
	0,0 ... 1600,0 MHz	35	38	—	dB
	1600,0 ... 1830,0 MHz	23	28	—	dB
	1830,0 ... 1910,0 MHz	12	15	—	dB
	2010,0 ... 2070,0 MHz	12	20	—	dB
	2070,0 ... 3500,0 MHz	23	25	—	dB
	3500,0 ... 4000,0 MHz	20	22	—	dB
	4000,0 ... 6000,0 MHz	15	16	—	dB

**SAW Components****B7709****Low-Loss Filter for Mobile Communication****1960,0 MHz****Data Sheet****Characteristics**

Operating Temperature Range:  $T = -10$  to  $+80^\circ\text{C}$   
Terminating source impedance:  $Z_s = 50 \Omega$  (unbalanced)  
Terminating load impedance:  $Z_L = 50 \Omega$  (balanced)

			min.	typ.	max.	
<b>Center frequency</b>	$f_c$		—	1960,0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$					
1930,0 ... 1990,0 MHz			—	3,7	4,4	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$					
1930,0 ... 1990,0 MHz			—	1,3	2,0	dB
<b>Input VSWR</b>						
1930,0 ... 1990,0 MHz			—	2,1	2,3	
<b>Output VSWR</b>						
1930,0 ... 1990,0 MHz			—	2,1	2,3	
<b>Differential to common mode suppression</b>	$S_{sc12}$					
1930,0 ... 1990,0 MHz			—	18	—	dB
855,0 ... 995,0 MHz			—	29	—	dB
1710,0 ... 1990,0 MHz			—	18	—	dB
3420,0 ... 3980,0 MHz			—	29	—	dB
<b>Attenuation</b>	$\alpha$					
0,0 ... 1600,0 MHz			35	38	—	dB
1600,0 ... 1830,0 MHz			23	28	—	dB
1830,0 ... 1910,0 MHz			8	13	—	dB
2010,0 ... 2070,0 MHz			9	15	—	dB
2070,0 ... 3500,0 MHz			23	25	—	dB
3500,0 ... 4000,0 MHz			20	22	—	dB
4000,0 ... 6000,0 MHz			15	16	—	dB



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## Low-Loss Filter for Mobile Communication

1960,0 MHz

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## Characteristics

Operating Temperature Range:  $T = -30$  to  $+85^\circ\text{C}$   
Terminating source impedance:  $Z_S = 50 \Omega$  (unbalanced)  
Terminating load impedance:  $Z_L = 50 \Omega$  (balanced)

		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	1960,0	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	3,8	4,6	dB
	1930,0 ... 1990,0 MHz	—	1,3	2,2	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	2,1	2,3	
	1930,0 ... 1990,0 MHz	—	2,1	2,3	
<b>Input VSWR</b>		—	2,1	2,3	
	1930,0 ... 1990,0 MHz	—	2,1	2,3	
<b>Output VSWR</b>		—	2,1	2,3	
	1930,0 ... 1990,0 MHz	—	2,1	2,3	
<b>Differential to common mode suppression</b>	$S_{sc12}$	—	18	—	dB
	1930,0 ... 1990,0 MHz	—	29	—	dB
	855,0 ... 995,0 MHz	—	18	—	dB
	1710,0 ... 1990,0 MHz	—	29	—	dB
<b>Attenuation</b>	$\alpha$	35	38	—	dB
	0,0 ... 1600,0 MHz	23	28	—	dB
	1600,0 ... 1830,0 MHz	7	12	—	dB
	1830,0 ... 1910,0 MHz	7	14	—	dB
	2010,0 ... 2070,0 MHz	23	25	—	dB
	3500,0 ... 4000,0 MHz	20	22	—	dB
	4000,0 ... 6000,0 MHz	15	16	—	dB



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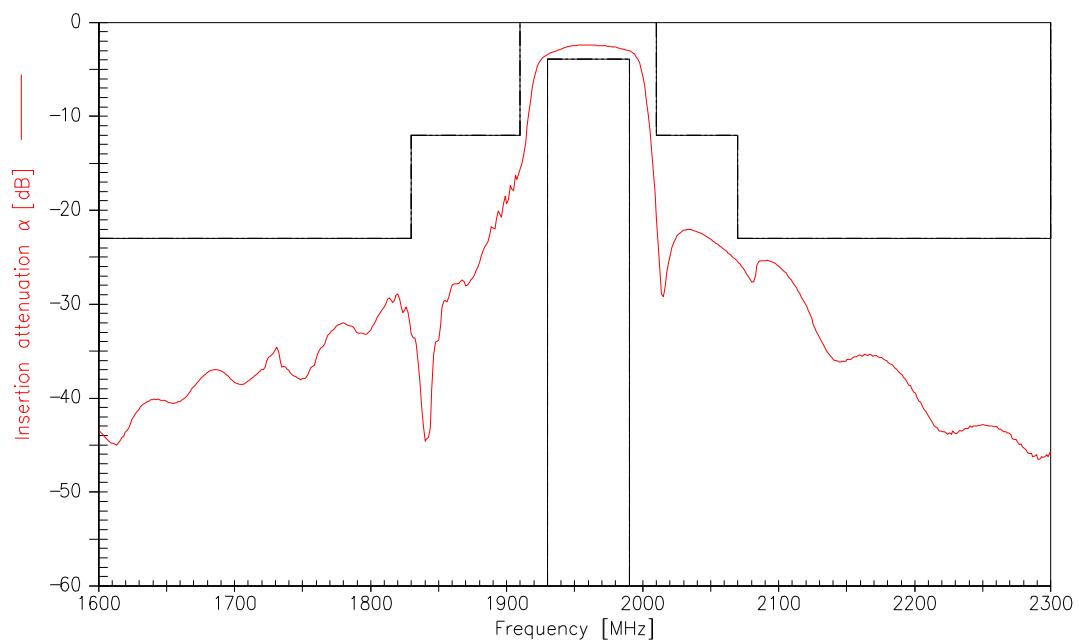
Low-Loss Filter for Mobile Communication

1960,0 MHz

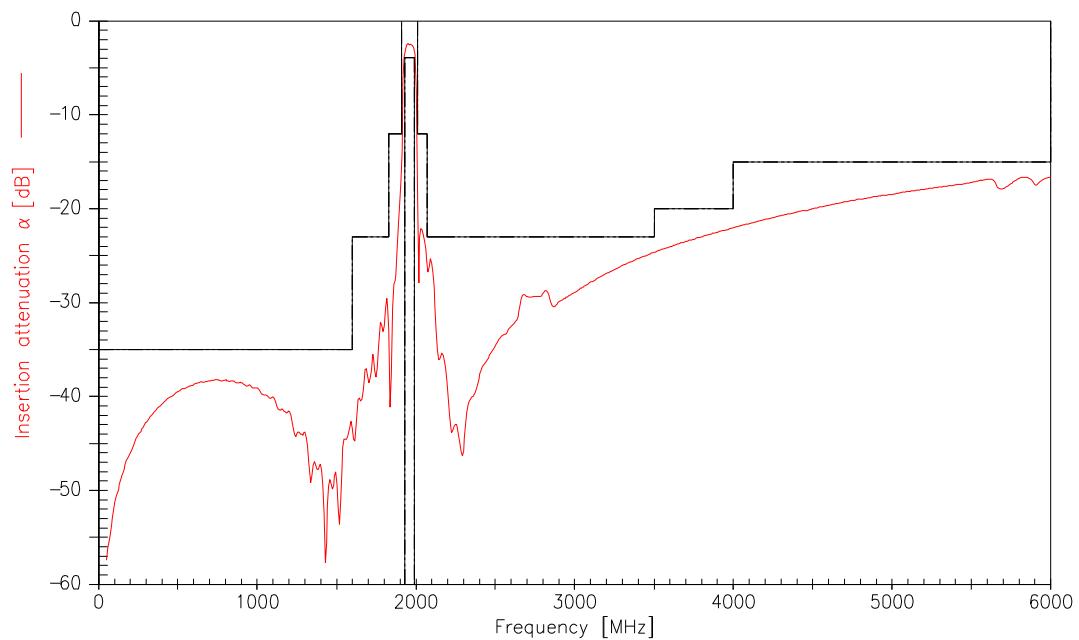
Data Sheet



### Transfer function



### Transfer function (wide band)





<b>SAW Components</b>	<b>B7709</b>
<b>Low-Loss Filter for Mobile Communication</b>	<b>1960,0 MHz</b>
Data Sheet	The SMD logo is a small, dark rectangular box containing the letters "SMD" in a white, sans-serif font.

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