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## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





# *SAW Components*

*Data Sheet B7714*

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.



**SAW Components**

**B7714**

**Low-Loss Filter for Mobile Communication**

**1842,5 MHz**

**Data Sheet**



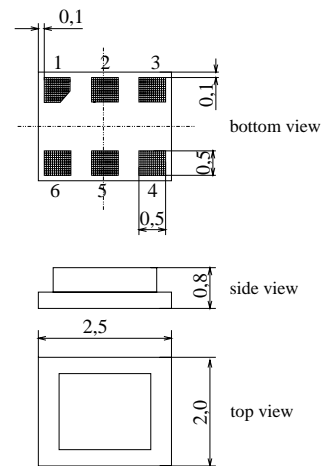
**Chip Sized SAW Package DCS6I**

**Features**

- Low-loss RF filter for mobile telephone PCN systems, receive path
- High selectivity
- Low amplitude ripple
- Usable passband 75 MHz
- Unbalanced to balanced operation
- No external matching required
- Suitable for GPRS class 1 to 12
- Package for **Surface Mounted Technology (SMT)**

**Terminals**

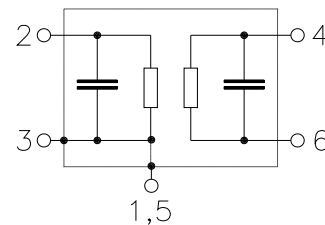
- Gold-plated Ni



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
B7714	B39182-B7714-C610	C61157-A7-A76	F61074-V8123-Z000

**Electrostatic Sensitive Device (ESD)**

**Maximum ratings**

Operable temperature range	$T$	- 10 / + 80	°C	Machine Model, 10 pulses peak power of GSM signal, duty cycle 4:8
Storage temperature range	$T_{stg}$	- 40 / + 85	°C	
DC voltage	$V_{DC}$	5	V	
ESD voltage	$V^*_{ESD}$	50*	V	
Input power max at				
GSM850, GSM900	$P_{IN}$	15	dBm	
GSM1800, GSM1900	$P_{IN}$	12	dBm	
Tx bands				

\* - acc. to JESD22-A115A (Machine Model), 10 negative & 10 positive pulses



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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)

			<b>min.</b>	<b>typ.</b>	<b>max.</b>	
<b>Center frequency</b>	$f_C$		—	1842,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	1805,0 ... 1880,0 MHz	—	2,9	3,5*	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	1805,0 ... 1880,0 MHz	—	0,8	1,4	dB
<b>Input VSWR</b>		1805,0 ... 1880,0 MHz	—	2,0	2,2	
<b>Output VSWR</b>		1805,0 ... 1880,0 MHz	—	1,7	1,9	
<b>Output phase balance</b> ( $\phi(S_{31}) - \phi(S_{21}) + 180^\circ$ )		1805,0 ... 1880,0 MHz	-15	—	+15	degree
<b>Output amplitude balance</b> ( $ S_{31}/S_{21} $ )		1805,0 ... 1880,0 MHz	-2,0	—	2,0	dB
<b>Diff. to common mode suppression</b>	$S_{sc12}$	1805,0 ... 1880,0 MHz	18	20,5	—	dB
		855,0 ... 995,0 MHz	18	28	—	dB
		1710,0 ... 1990,0 MHz	18	19,5	—	dB
		3420,0 ... 3980,0 MHz	18	28	—	dB
<b>Attenuation</b>	$\alpha$	0,0 ... 1500,0 MHz	35	37	—	dB
		1500,0 ... 1705,0 MHz	27	33	—	dB
		1705,0 ... 1785,0 MHz	12	14	—	dB
		1920,0 ... 1980,0 MHz	18	20	—	dB
		1980,0 ... 2100,0 MHz	23	25	—	dB
		2100,0 ... 2900,0 MHz	27	29	—	dB
		2900,0 ... 3100,0 MHz	25	28	—	dB
		3100,0 ... 3400,0 MHz	23	26	—	dB
		3400,0 ... 4000,0 MHz	20	23	—	dB
		4000,0 ... 5200,0 MHz	17	19	—	dB
		5200,0 ... 6000,0 MHz	15	17	—	dB

\* the insertion attenuation includes also pcb losses of typ. 0,2dB



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**1842,5 MHz**

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**Characteristics**

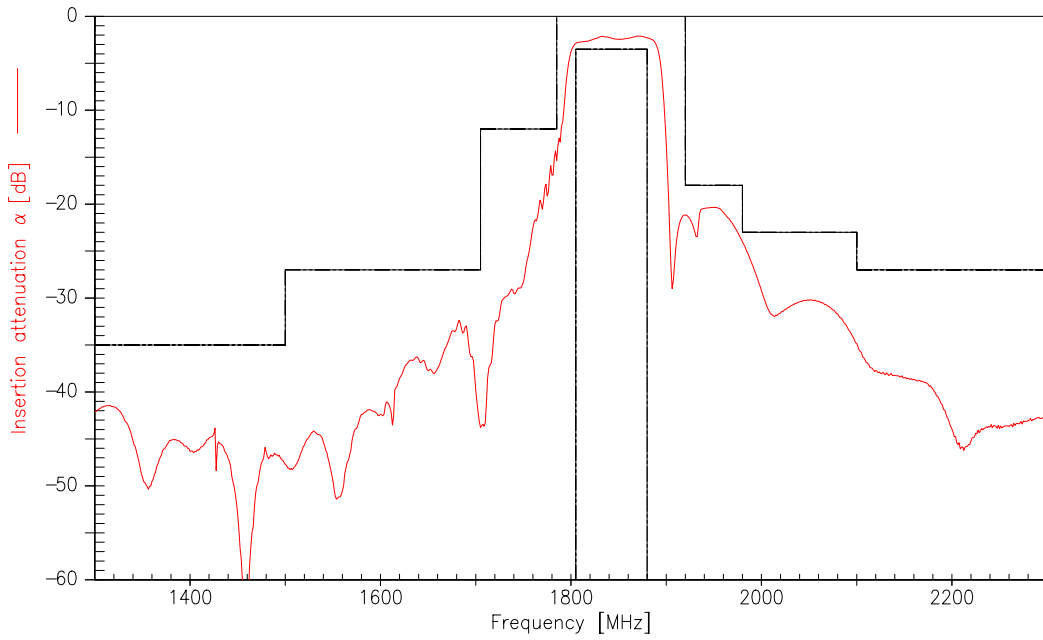
Operating Temperature Range:  $T = -10$  to  $+80^{\circ}\text{C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$  (unbalanced)  
 Terminating load impedance:  $Z_L = 50\ \Omega$  (balanced)

			<b>min.</b>	<b>typ.</b>	<b>max.</b>	
<b>Center frequency</b>	$f_C$		—	1842,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	1805,0 ... 1880,0 MHz	—	3,2	4,0*	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	1805,0 ... 1880,0 MHz	—	1,1	1,9	dB
<b>Input VSWR</b>		1805,0 ... 1880,0 MHz	—	2,2	2,4	
<b>Output VSWR</b>		1805,0 ... 1880,0 MHz	—	1,9	2,1	
<b>Output phase balance</b> ( $\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$ )		1805,0 ... 1880,0 MHz	-15	—	+15	degree
<b>Output amplitude balance</b> ( $ S_{31}/S_{21} $ )		1805,0 ... 1880,0 MHz	-2,0	—	2,0	dB
<b>Diff. to common mode suppression</b>	$S_{sc12}$	1805,0 ... 1880,0 MHz	18	20,5	—	dB
		855,0 ... 995,0 MHz	18	28	—	dB
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		3420,0 ... 3980,0 MHz	18	28	—	dB
<b>Attenuation</b>	$\alpha$	0,0 ... 1500,0 MHz	35	37	—	dB
		1500,0 ... 1705,0 MHz	27	33	—	dB
		1705,0 ... 1785,0 MHz	10	12	—	dB
		1920,0 ... 1980,0 MHz	18	20	—	dB
		1980,0 ... 2100,0 MHz	23	25	—	dB
		2100,0 ... 2900,0 MHz	27	29	—	dB
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		3400,0 ... 4000,0 MHz	20	23	—	dB
		4000,0 ... 5200,0 MHz	17	19	—	dB
		5200,0 ... 6000,0 MHz	15	17	—	dB

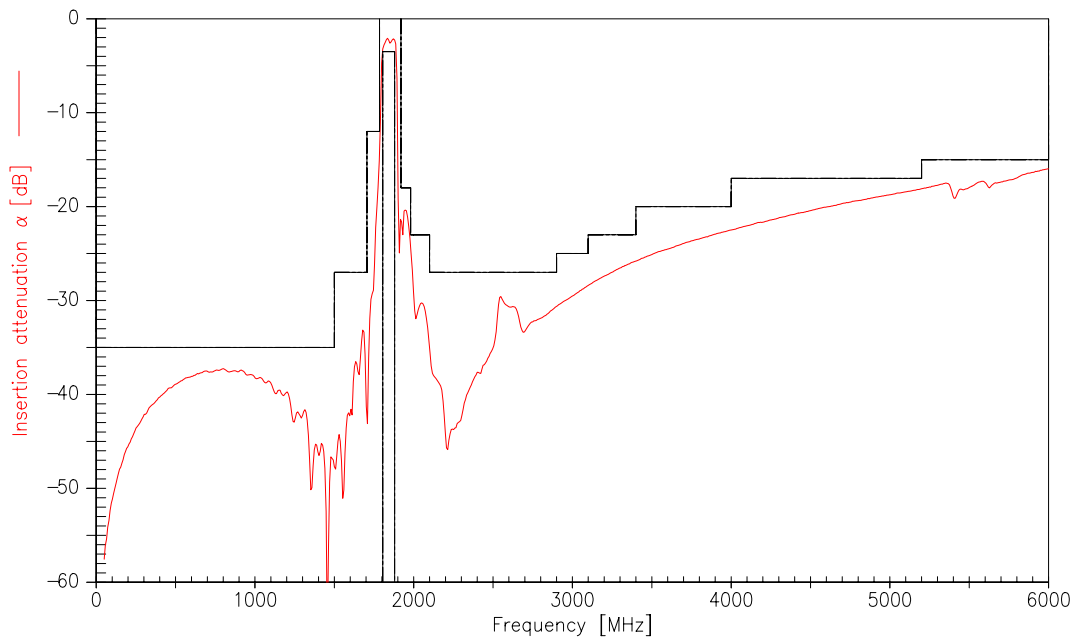
\* the insertion attenuation includes also pcb losses of typ. 0,2dB



Transfer function



Transfer function (wide band)





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