



# SAW Components

Data Sheet B7714





SAW Components

B7714

Low-Loss Filter for Mobile Communication

1842,5 MHz

Data Sheet



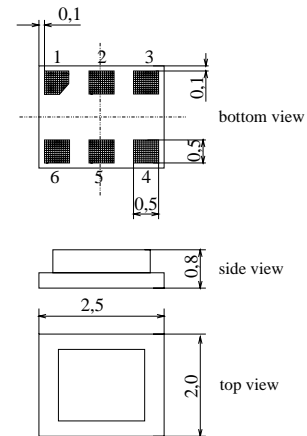
Chip Sized SAW Package DCS6I

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

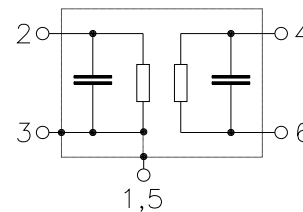
- Gold-plated Ni



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 Tx bands	$P_{IN}$	12	dBm	

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



SAW Components

B7714

Low-Loss Filter for Mobile Communication

1842,5 MHz

Data Sheet



**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>	$f_C$	—	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



SAW Components

B7714

Low-Loss Filter for Mobile Communication

1842,5 MHz

Data Sheet



**Characteristics**

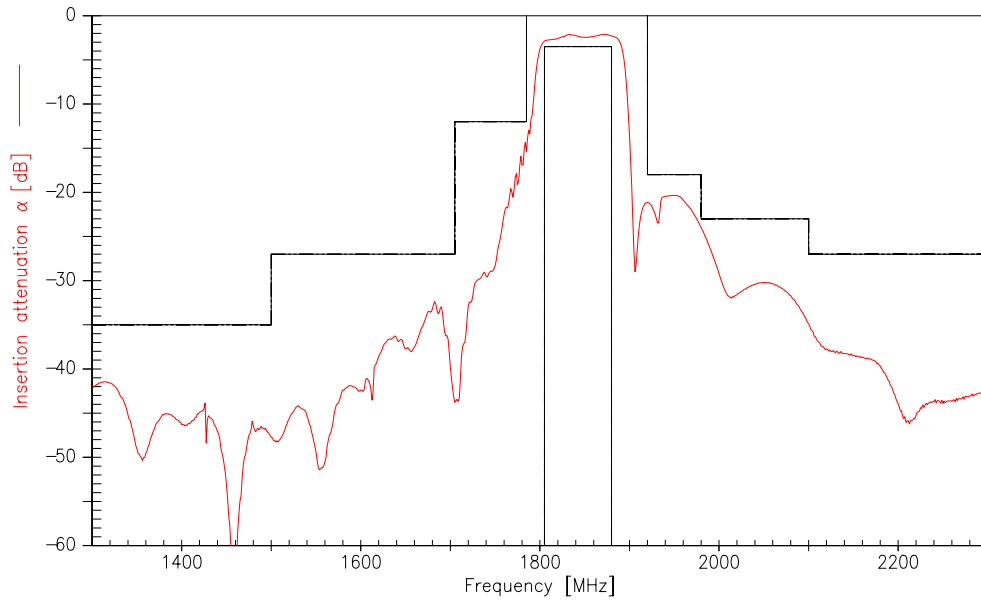
Operating Temperature Range:  $T = -10$  to  $+80^{\circ}\text{C}$   
 Terminating source impedance:  $Z_S = 50 \Omega$  (unbalanced)  
 Terminating load impedance:  $Z_L = 50 \Omega$  (balanced)

		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	1842,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	3,2	4,0*	dB
	1805,0 ... 1880,0 MHz				
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	1,1	1,9	dB
	1805,0 ... 1880,0 MHz				
<b>Input VSWR</b>		—	2,2	2,4	
	1805,0 ... 1880,0 MHz				
<b>Output VSWR</b>		—	1,9	2,1	
	1805,0 ... 1880,0 MHz				
<b>Output phase balance</b> ( $\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$ )		-15	—	+15	degree
	1805,0 ... 1880,0 MHz				
<b>Output amplitude balance</b> ( $ S_{31}/S_{21} $ )		-2,0	—	2,0	dB
	1805,0 ... 1880,0 MHz				
<b>Diff. to common mode suppression</b>	$S_{sc12}$	18	20,5	—	dB
	1805,0 ... 1880,0 MHz				
	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>	$\alpha$	35	37	—	dB
	0,0 ... 1500,0 MHz				
	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
	2900,0 ... 3100,0 MHz	25	27	—	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

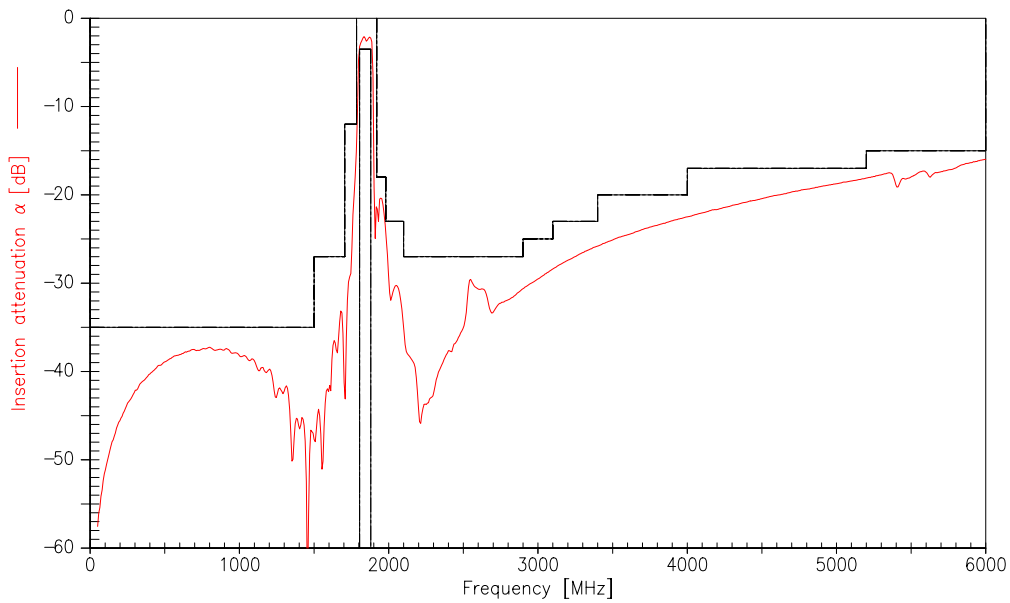
\* the insertion attenuation includes also pcb losses of typ. 0,2dB



Transfer function



Transfer function (wide band)





**SAW Components**

**B7714**

**Low-Loss Filter for Mobile Communication**

**1842,5 MHz**

Data Sheet



**Published by EPCOS AG**

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

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

© EPCOS AG 2004. 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.