



# RF Filters for Cellular Phones

## **Series/Type: B7749**

The following products presented in this data sheet are being withdrawn.

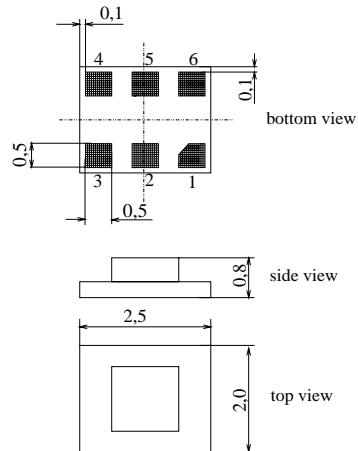
Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B39182B7749C910	B39182B9402K610	2007-09-21	2007-12-31	2008-03-31

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**SAW Components**
**B7749**
**Low-Loss Filter for Mobile Communication**
**1842,5 MHz**
**Data Sheet**

**Chip sized SAW package DCS6K**
**Features**

- Low-loss RF filter for mobile telephone PCN systems, receive path
- Low amplitude ripple
- Usable passband 75 MHz
- Unbalanced to balanced operation
- Impedance transformation from  $50\Omega$  to  $200\Omega$
- Suitable for GPRS class 1 to 12
- Package for Surface Mounted Technology (SMT)

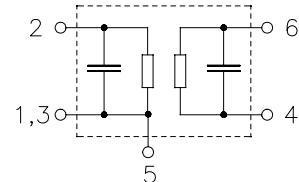

**Terminals**

- Gold-plated Ni

Dimensions in mm, approx. weight 0,012 g

**Pin configuration**

- |         |                   |
|---------|-------------------|
| 2       | Input, unbalanced |
| 1, 3    | Input ground      |
| 4, 6    | Output, balanced  |
| 1, 3, 5 | To be grounded    |



Type	Ordering code	Marking and Package according to	Packing according to
B7749	B39182-B7749-C910	C61157-A1-A97	F61074-V8153-Z000

**Electrostatic Sensitive Device (ESD)**
**Maximum ratings**

Operable temperature range	$T$	$-30 / +85$	$^{\circ}\text{C}$	
Storage temperature range	$T_{\text{stg}}$	$-40 / +85$	$^{\circ}\text{C}$	
DC voltage	$V_{\text{DC}}$	3	V	
ESD voltage	$V_{\text{ESD}}$	50	V	
Input power at GSM850, GSM900 GSM1800, GSM1900	$P_{\text{IN}}$	15	dBm	peak power of GSM signal
Tx bands	$P_{\text{IN}}$	12	dBm	duty cycle 4:8

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### Characteristics

Operating temperature range:  $T = 25^\circ\text{C} \pm 2^\circ\text{C}$   
 Terminating source impedance:  $Z_S = 50\Omega$   
 Terminating load impedance:  $Z_L = 200\Omega$  (balanced)  $\parallel 18\text{ nH}$

			min.	typ.	max.	
<b>Center frequency</b>	$f_C$		—	1842,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$					
1805,0 ... 1880,0 MHz			—	2,7	3,2	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$					
1805,0 ... 1880,0 MHz			—	1,2	1,7	dB
<b>Input VSWR</b>						
1805,0 ... 1880,0 MHz			—	2,3	2,5	
<b>Output VSWR</b>						
1805,0 ... 1880,0 MHz			—	2,0	2,2	
<b>Diff. to common mode suppression</b>	$S_{sc12}$					
1805,0 ... 1880,0 MHz			—	22	—	dB
855,0 ... 995,0 MHz			—	28	—	dB
1710,0 ... 1990,0 MHz			—	22	—	dB
3420,0 ... 3980,0 MHz			—	34	—	dB
<b>Attenuation</b>	$\alpha$					
0,0 ... 1205,0 MHz			40	43	—	dB
1205,0 ... 1705,0 MHz			30	32	—	dB
1705,0 ... 1785,0 MHz			14	16	—	dB
1920,0 ... 1980,0 MHz			14	19	—	dB
1980,0 ... 2100,0 MHz			20	23	—	dB
2100,0 ... 3000,0 MHz			30	36	—	dB
3000,0 ... 6000,0 MHz			40	44	—	dB

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### Characteristics

Operating temperature range:  $T = -10$  to  $+80$  °C  
 Terminating source impedance:  $Z_S = 50 \Omega$   
 Terminating load impedance:  $Z_L = 200 \Omega$  (balanced)  $\parallel 18 \text{ nH}$

			min.	typ.	max.	
<b>Center frequency</b>	$f_C$		—	1842,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$					
1805,0 ... 1880,0 MHz			—	3,0	3,5	dB
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$					
1805,0 ... 1880,0 MHz			—	1,5	2,0	dB
<b>Input VSWR</b>						
1805,0 ... 1880,0 MHz			—	2,3	2,5	
<b>Output VSWR</b>						
1805,0 ... 1880,0 MHz			—	2,0	2,2	
<b>Diff. to common mode suppression</b>	$S_{sc12}$					
1805,0 ... 1880,0 MHz			—	22	—	dB
855,0 ... 995,0 MHz			—	28	—	dB
1710,0 ... 1990,0 MHz			—	22	—	dB
3420,0 ... 3980,0 MHz			—	34	—	dB
<b>Attenuation</b>	$\alpha$					
0,0 ... 1205,0 MHz			40	43	—	dB
1205,0 ... 1705,0 MHz			30	32	—	dB
1705,0 ... 1785,0 MHz			10	12	—	dB
1920,0 ... 1980,0 MHz			10	19	—	dB
1980,0 ... 2100,0 MHz			20	23	—	dB
2100,0 ... 3000,0 MHz			30	36	—	dB
3000,0 ... 6000,0 MHz			40	44	—	dB

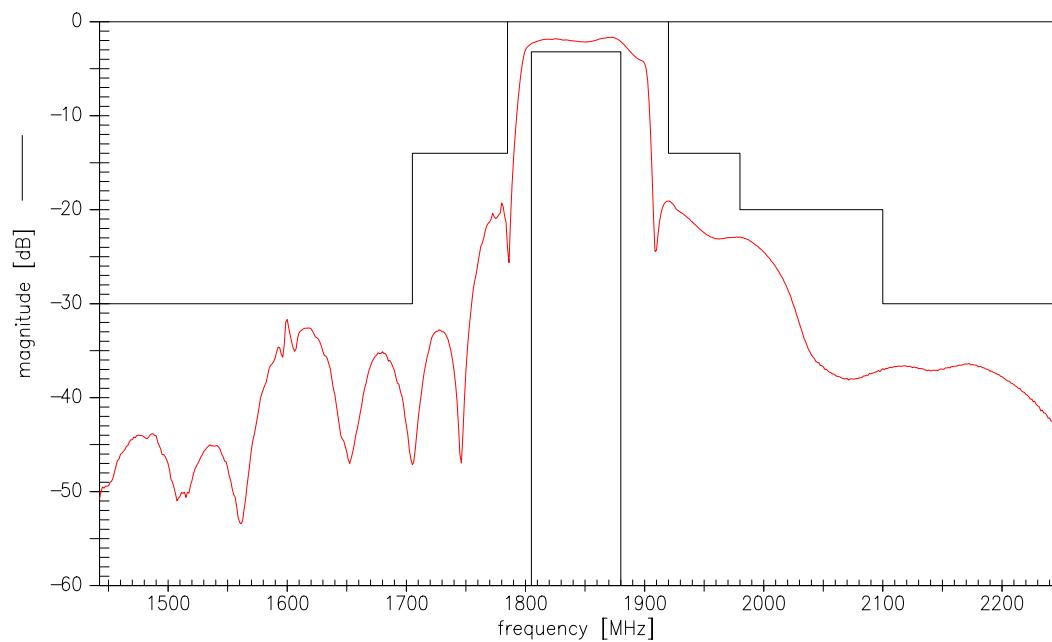
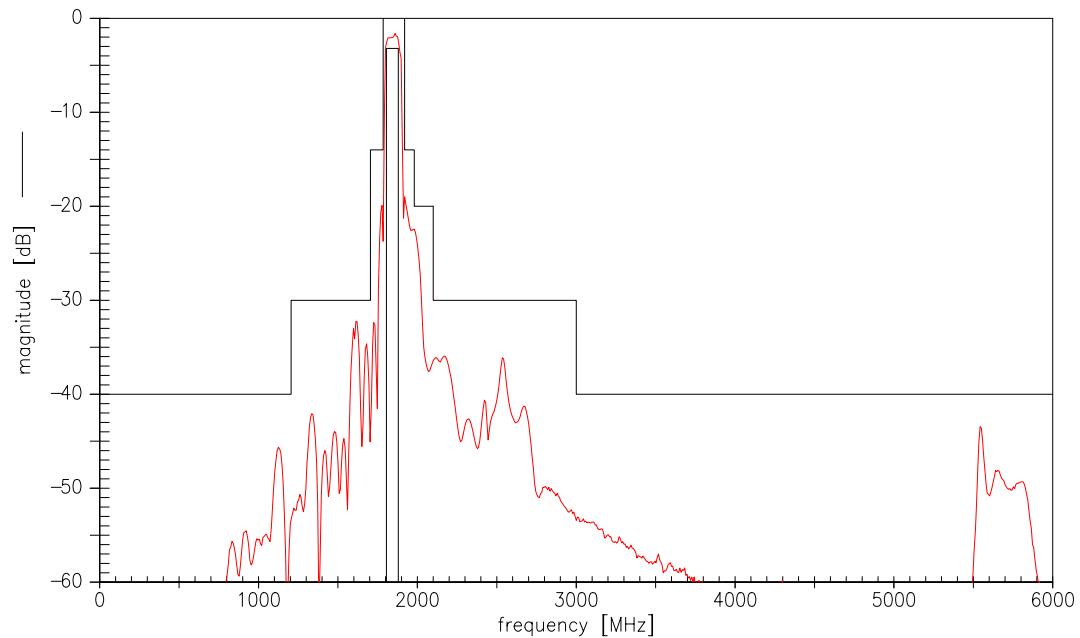
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**Characteristics**

Operating temperature range:  $T = -30$  to  $+85$  °C  
 Terminating source impedance:  $Z_S = 50 \Omega$   
 Terminating load impedance:  $Z_L = 200 \Omega$  (balanced)  $\parallel 18 \text{ nH}$

			min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	1842,5	—	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	3,5	4,0	4,0	dB
1805,0 ... 1880,0 MHz		—				
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	2,0	2,5	2,5	dB
1805,0 ... 1880,0 MHz		—				
<b>Input VSWR</b>		—	2,4	2,6	2,6	
1805,0 ... 1880,0 MHz		—				
<b>Output VSWR</b>		—	2,1	2,3	2,3	
1805,0 ... 1880,0 MHz		—				
<b>Diff. to common mode suppression</b>	$S_{sc12}$	—	22	—	—	dB
1805,0 ... 1880,0 MHz		—				
855,0 ... 995,0 MHz		—	28	—	—	dB
1710,0 ... 1990,0 MHz		—	22	—	—	dB
3420,0 ... 3980,0 MHz		—	34	—	—	dB
<b>Attenuation</b>	$\alpha$	—	—	—	—	
0,0 ... 1205,0 MHz		40	43	—	—	dB
1205,0 ... 1705,0 MHz		30	32	—	—	dB
1705,0 ... 1785,0 MHz		9	11	—	—	dB
1920,0 ... 1980,0 MHz		10	19	—	—	dB
1980,0 ... 2100,0 MHz		20	23	—	—	dB
2100,0 ... 3000,0 MHz		30	36	—	—	dB
3000,0 ... 6000,0 MHz		40	44	—	—	dB

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**Transfer function**

**Transfer function (wide band)**




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