



# RF Filters for Cellular Phones

## Series/Type: **B7721**

The following products presented in this data sheet are being withdrawn.

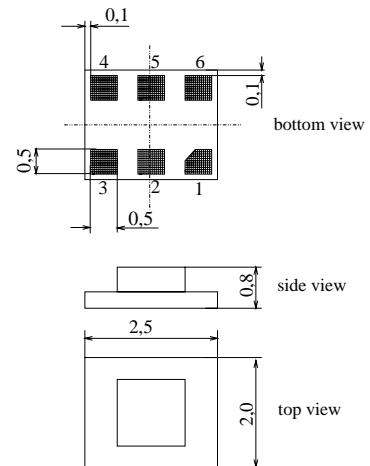
Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B39941B7721C910	B39941B9401K610	2007-09-21	2007-12-31	2008-03-31

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**SAW Components**
**B7721**
**Low-Loss Filter for Mobile Communication**
**942,5 MHz**
**Data Sheet**

**Features**

- Low-loss RF filter for mobile telephone EGSM system, receive path
- Low amplitude ripple
- Usable passband 35 MHz
- Unbalanced to balanced operation
- Excellent symmetry
- Impedance transformation from 50 Ω to 200 Ω
- Suitable for GPRS class 1 to 12
- Ceramic package for **Surface Mounted Technology (SMT)**
- Pb-free

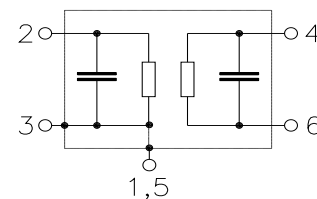
**Chip sized SAW package DCS6K**

**Terminals**

- Ni, gold-plated

**Pin configuration**

2	Input, unbalanced
4, 6	Balanced outputs
1, 3, 5	To be grounded
1, 5	Case ground

Dimensions in mm



Type	Ordering code	Marking and Package according to	Packing according to
B7721	B39941-B7721-C910	C61157-A7-A97	F61074-V8153-Z000

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

Operable temperature range	$T$	- 25 / + 85	°C	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	$V_{ESD}$	100	V	
Input power at GSM850, GSM900	$P_{IN}$	15	dBm	
GSM1800 and GSM1900				
Tx bands				


**Characteristics**

Operating temperature range:	$T = 25 \pm 2 \text{ }^\circ\text{C}$
Terminating source impedance:	$Z_S = 50 \text{ } \Omega$
Terminating load impedance:	$Z_L = 200 \text{ } \Omega \parallel 68 \text{ nH}$

		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	942,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{\max}$	—	2,4	2,8	dB
925,0 ... 960,0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	1,1	1,5	dB
925,0 ... 960,0 MHz					
<b>Input VSWR</b>		—	2,2	2,4	
925,0 ... 960,0 MHz					
<b>Output VSWR</b>		—	2,0	2,4	
925,0 ... 960,0 MHz					
<b>Output phase balance</b> $\phi(S_{31}) - \phi(S_{21})$		-5	—	5	degree
925,0 ... 960,0 MHz					
<b>Output amplitude balance</b> $( S_{31}/S_{21} )$		-0,5	—	0,5	dB
925,0 ... 960,0 MHz					
<b>Diff. to common mode suppression</b>	$S_{sc12}$	20	38	—	dB
925,0 ... 960,0 MHz					
824,0 ... 995,0 MHz		20	29	—	
1648,0 ... 1990,0 MHz		20	50	—	
3296,0 ... 3980,0 MHz		20	31	—	
<b>Attenuation</b>	$\alpha$	50	64	—	dB
0,0 ... 880,0 MHz					
880,0 ... 905,0 MHz		30	39	—	
905,0 ... 915,0 MHz		20	26	—	
980,0 ... 1050,0 MHz		23	30	—	
1050,0 ... 1850,0 MHz		50	70	—	
1850,0 ... 1920,0 MHz		50	72	—	
1920,0 ... 2880,0 MHz		50	64	—	
2880,0 ... 4000,0 MHz		40	66	—	
4000,0 ... 6000,0 MHz		40	66	—	

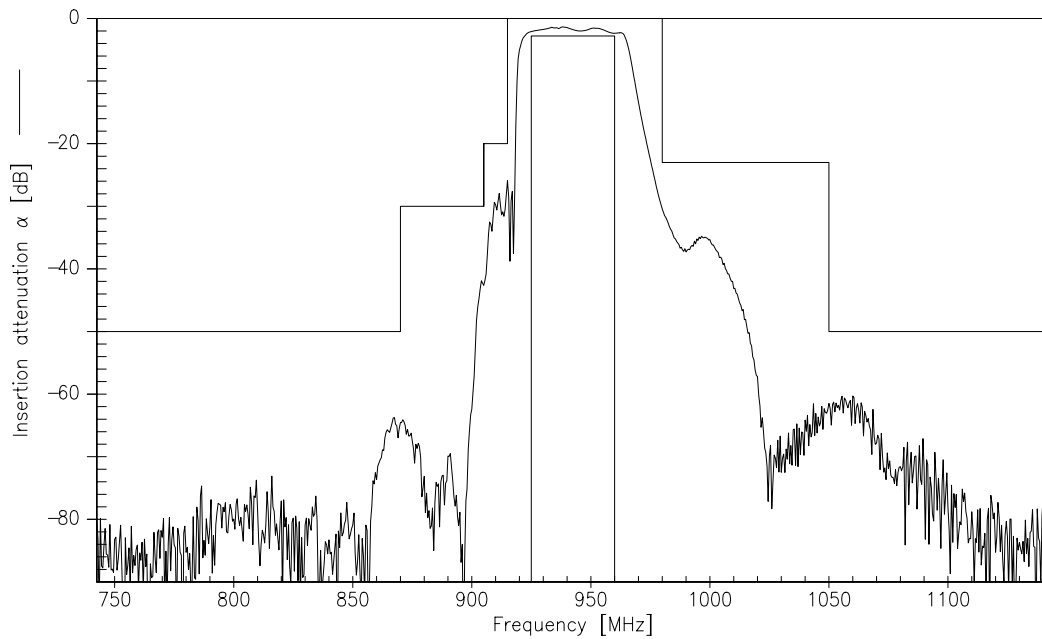

**Characteristics**

Operating temperature range:	$T = -10$ to $+80$ °C
Terminating source impedance:	$Z_S = 50$ $\Omega$
Terminating load impedance:	$Z_L = 200$ $\Omega$    68 nH

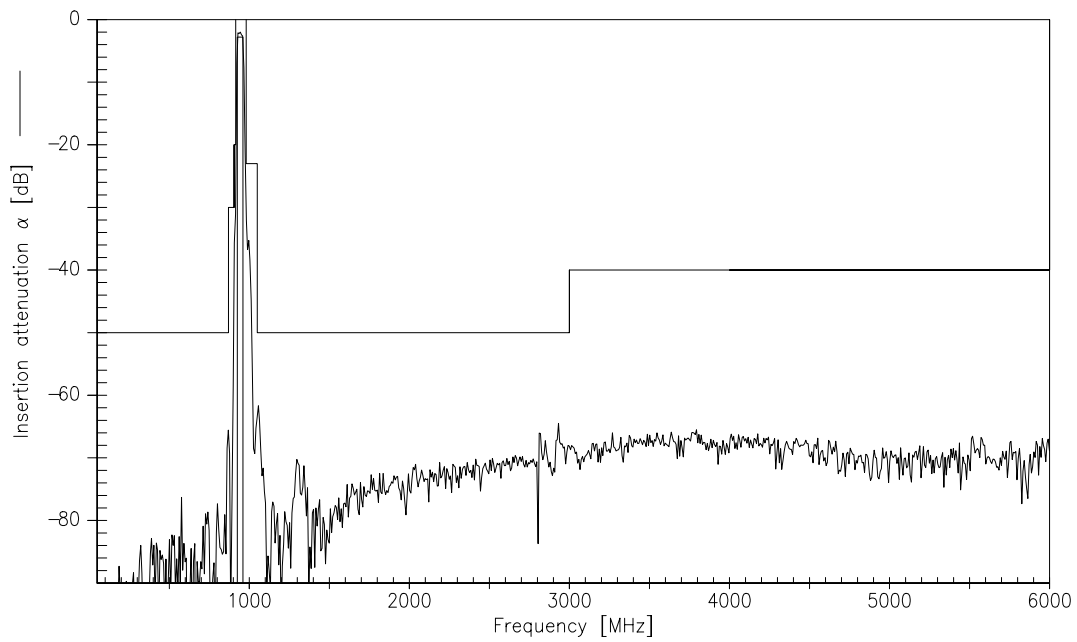
		min.	typ.	max.	
<b>Center frequency</b>	$f_C$	—	942,5	—	MHz
<b>Maximum insertion attenuation</b>	$\alpha_{max}$	—	2,4	3,0	dB
925,0 ... 960,0 MHz					
<b>Amplitude ripple (p-p)</b>	$\Delta\alpha$	—	1,1	1,7	dB
925,0 ... 960,0 MHz					
<b>Input VSWR</b>		—	2,2	2,4	
925,0 ... 960,0 MHz					
<b>Output VSWR</b>		—	2,0	2,4	
925,0 ... 960,0 MHz					
<b>Output phase balance</b> $\phi(S_{31}) - \phi(S_{21})$		-5	—	5	degree
925,0 ... 960,0 MHz					
<b>Output amplitude balance</b> $( S_{31}/S_{21} )$		-0,5	—	0,5	dB
925,0 ... 960,0 MHz					
<b>Diff. to common mode suppression</b>	$S_{sc12}$	20	38	—	dB
925,0 ... 960,0 MHz					
824,0 ... 995,0 MHz		20	29	—	
1648,0 ... 1990,0 MHz		20	50	—	
3296,0 ... 3980,0 MHz		20	31	—	
<b>Attenuation</b>	$\alpha$	50	64	—	dB
0,0 ... 880,0 MHz					
880,0 ... 905,0 MHz		30	37	—	
905,0 ... 915,0 MHz		20	26	—	
980,0 ... 1050,0 MHz		23	29	—	
1050,0 ... 1850,0 MHz		50	70	—	
1850,0 ... 1920,0 MHz		50	72	—	
1920,0 ... 2880,0 MHz		50	64	—	
2880,0 ... 4000,0 MHz		40	66	—	
4000,0 ... 6000,0 MHz		40	66	—	



Transfer function (measurement)



Transfer function (wideband measurement)



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