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The following products presented in this data sheet are being withdrawn.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

For further information please contact your nearest EPCOS sales office, which will also support you in selecting a suitable substitute. The addresses of our worldwide sales network are presented at www.epcos.com/sales.



B7721

Low-Loss Filter for Mobile Communication

942,5 MHz

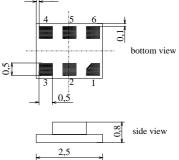
Data Sheet

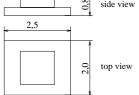


Features

- Low-loss RF filter for mobile telephone EGSM system, receive path
- Low amplitude ripple
- Usable passband 35 MHz
- Unbalanced to balanced operation
- Excellent symmetry
- \blacksquare 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





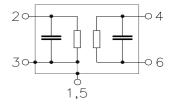
Terminals

■ Ni, gold-plated

Dimensions in mm

Pin configuration

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



| Туре | Ordering code | Marking and Package | Packing | | |
|-------|-------------------|---------------------|-------------------|--|--|
| | | according to | 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 | |
|----------------------------|--------------|--------------------|-----|---------------------------|
| Storage temperature range | T_{stg} | - 40 / + 85 | °C | |
| DC voltage | $V_{\rm DC}$ | 5 | V | |
| ESD voltage | V_{ESD} | 100 | V | |
| Input power at | P_{IN} | 15 | dBm | peak power of GSM signal, |
| GSM850, GSM900 | | | | duty cycle 4:8 |
| GSM1800 and GSM1900 | | | | |
| Tx bands | | | | |



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942,5 MHz

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Characteristics

 $T = 25 \pm 2 \, ^{\circ}\text{C}$ Operating temperature range: Terminating source impedance:

 $Z_{\rm S} = 50 \ \Omega$ $Z_{\rm L} = 200 \ \Omega \parallel 68 \ \rm nH$ Terminating load impedance:

| | | | min. | typ. | max. | |
|--|------------|-------------------|----------|----------|----------|----------|
| Center frequency | 1 | $f_{\mathbb{C}}$ | _ | 942,5 | _ | MHz |
| | | | | | | |
| Maximum insertion attenuation | | α_{max} | | | | |
| 925,0 960,0 | MHz | | _ | 2,4 | 2,8 | dB |
| A man literate viscos la (m. m.) | | . | | | | |
| Amplitude ripple (p-p) 925,0 960,0 | MHz | Δα | | 1,1 | 1,5 | dB |
| 925,0 900,0 | IVII IZ | | _ | 1,1 | 1,5 | ub |
| Input VSWR | | | | | | |
| • | MHz | | _ | 2,2 | 2,4 | |
| , | | | | , | ŕ | |
| Output VSWR | | | | | | |
| 925,0 960,0 | MHz | | _ | 2,0 | 2,4 | |
| | | | | | | |
| Output phase balance $\phi(S_{31})$ – $\phi(S_{21})$ | | | _ | | _ | |
| 925,0 960,0 | MHz | | -5 | _ | 5 | degree |
| Output amplitude balance (S_{31}/S_{21}) | | | | | | |
| | MHz | | -0,5 | _ | 0,5 | dB |
| 525,5 555,5 | | | 0,0 | | 0,0 | |
| Diff. to common mode suppression | 9 | S _{sc12} | | | | |
| 925,0 960,0 | MHz | 0012 | 20 | 38 | _ | dB |
| 824,0 995,0 | MHz | | 20 | 29 | _ | dB |
| • | MHz | | 20 | 50 | _ | dB |
| · · · · · · · · · · · · · · · · · · · | MHz | | 20 | 31 | <u> </u> | dB |
| Attenuation | | α | E0 | 64 | | 4D |
| | MHz MHz | | 50 30 | 64 39 | _ | dB |
| • | MHz | | 20 | 39 26 | | dB dB |
| • | MHz | | 23 | 30 | | dB |
| | MHz | | 50 | 70 | _ | dB |
| • | MHz | | 50 | 72 | _ | dB |
| | MHz | | 50 | 64 | _ | dB |
| 2880,04000,0 | MHz | | 40 | 66 | _ | dB |
| 4000,06000,0 | MHz | | 40 | 66 | _ | dB |



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942,5 MHz

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Characteristics

 $T = -10 \text{ to } +80 \text{ }^{\circ}\text{C}$ Operating temperature range:

Terminating source impedance:

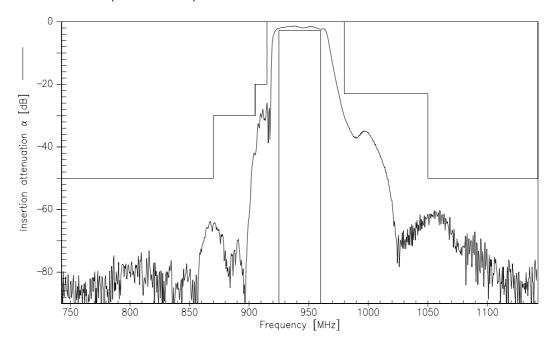
 $Z_{\rm S} = 50 \ \Omega$ $Z_{\rm L} = 200 \ \Omega \parallel 68 \ \rm nH$ Terminating load impedance:

| | | min. | typ. | max. | |
|--|---|----------|----------|------|----------|
| Center frequency | $f_{\mathbb{C}}$ | _ | 942,5 | _ | MHz |
| | | | | | |
| Maximum insertion attenuation | | (| | | |
| 925,0 960,0 | MHz | _ | 2,4 | 3,0 | dB |
| A | | | | | |
| Amplitude ripple (p-p) 925,0 960,0 | $\begin{array}{c} \Delta\alpha \\ \text{MHz} \end{array}$ | | 1,1 | 17 | dB |
| 925,0 900,0 | IVIIIZ | _ | 1,1 | 1,7 | UB |
| Input VSWR | | | | | |
| • | MHz | _ | 2,2 | 2,4 | |
| , | | | , | , | |
| Output VSWR | | | | | |
| 925,0 960,0 | MHz | _ | 2,0 | 2,4 | |
| | | | | | |
| Output phase balance $\phi(S_{31}) - \phi(S_{21})$ | | | | _ | |
| 925,0 960,0 | MHz | -5 | _ | 5 | degree |
| Output amplitude balance ($ S_{31}/S_{21} $) | | | | | |
| | MHz | -0,5 | _ | 0,5 | dB |
| 323,0 300,0 | IVII 12 | 0,0 | | 0,0 | l a B |
| Diff. to common mode suppression | S_{sc1} | , | | | |
| | MHz | 20 | 38 | _ | dB |
| 824,0 995,0 | MHz | 20 | 29 | _ | dB |
| 1648,0 1990,0 | MHz | 20 | 50 | _ | dB |
| · | MHz | 20 | 31 | _ | dB |
| Attenuation | α | | 0.1 | | |
| | MHz | 50 | 64 | _ | dB |
| · | MHz | 30 | 37 | _ | dB |
| · | MHz MHz | 20 23 | 26 29 | _ | dB dB |
| | MHz | 50 | 70 | _ | dВ |
| · | MHz | 50 | 70 | _ | dB |
| | MHz | 50 | 64 | _ | dB |
| | MHz | 40 | 66 | _ | dB |
| | MHz | 40 | 66 | _ | dB |

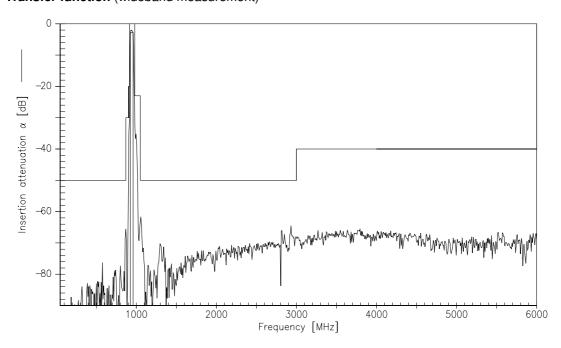




Transfer function (measurement)



Transfer function (wideband measurement)





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