



# RF Filters for Cellular Phones

## Series/Type: B7752

The following products presented in this data sheet are being withdrawn.

| Ordering Code   | Substitute Product | Date of Withdrawal | Deadline Last Orders | Last Shipments |
|-----------------|--------------------|--------------------|----------------------|----------------|
| B39212B7752C910 | B39212B9408K610    | 2007-09-21         | 2007-12-31           | 2008-03-31     |

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## SAW Components

B7752

## Low-Loss Filter for Mobile Communication

2140,0 MHz

### Data Sheet



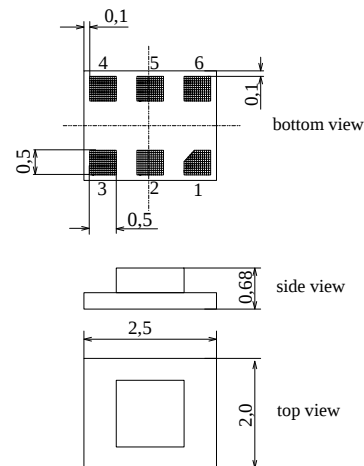
### Chip Sized SAW Package DCS6K

#### Features

- Low-loss RF filter for mobile telephone W-CDMA system, receive path
- Low amplitude ripple
- Usable passband 60 MHz
- Unbalanced to balanced operation
- Impedance transformation from 50Ω to 200Ω
- Package for Surface Mounted Technology (SMT)
- Chip Sized SAW Package (CSSP)

#### Terminals

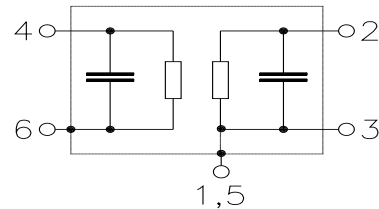
- Gold-plated Ni



Dimensions in mm, approx. weight 0,012 g

#### Pin configuration

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



| Type  | Ordering code     | Marking and Package according to | Packing according to |
|-------|-------------------|----------------------------------|----------------------|
| B7752 | B39212-B7752-C910 | C61157-A7-A97                    | F61074-V8153-Z000    |

Electrostatic Sensitive Device (ESD)

#### Maximum ratings

|                             |           |           |     |  |
|-----------------------------|-----------|-----------|-----|--|
| Operating temperature range | $T$       | - 20/+ 85 | °C  |  |
| Storage temperature range   | $T_{stg}$ | - 40/+ 85 | °C  |  |
| DC voltage                  | $V_{DC}$  | 5         | V   |  |
| ESD voltage                 | $V_{ESD}$ | 50        | V   |  |
| Source power                | $P_S$     | 10        | dBm |  |



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### Characteristics

Operating temperature range:  $T = +25^{\circ}\text{C}$   
Terminating source impedance:  $Z_S = 50\ \Omega$   
Terminating load impedance:  $Z_L = 200\ \Omega$  (balanced) || 12 nH

|                                                                                 |                              | min.  | typ.   | max. |        |
|---------------------------------------------------------------------------------|------------------------------|-------|--------|------|--------|
| <b>Center frequency</b>                                                         | $f_C$                        | —     | 2140,0 | —    | MHz    |
| <b>Maximum insertion attenuation</b>                                            | $\alpha_{\max}$              | —     | 2,4    | 2,8  | dB     |
| 2110,0 ... 2170,0 MHz                                                           |                              |       |        |      |        |
| <b>Amplitude ripple (p-p)</b>                                                   | $\Delta\alpha$               | —     | 0,8    | 1,2  | dB     |
| 2110,0 ... 2170,0 MHz                                                           |                              |       |        |      |        |
| <b>Amplitude ripple per 5MHz channel (p-p)</b>                                  | $\Delta\alpha_{5\text{MHz}}$ | —     | 0,3    | 0,5  | dB     |
| 2110,0 ... 2170,0 MHz                                                           |                              |       |        |      |        |
| <b>Input VSWR</b>                                                               |                              | —     | 1,9    | 2,2  |        |
| 2110,0 ... 2170,0 MHz                                                           |                              |       |        |      |        |
| <b>Output VSWR</b>                                                              |                              | —     | 1,9    | 2,2  |        |
| 2110,0 ... 2170,0 MHz                                                           |                              |       |        |      |        |
| <b>Output amplitude balance(<math> S_{31}/S_{21} </math>)</b>                   |                              | -1,0  | 0      | 1,0  | dB     |
| 2110,0 ... 2170,0 MHz                                                           |                              |       |        |      |        |
| <b>Output phase balance(<math>\phi(S_{31})-\phi(S_{21})+180^{\circ}</math>)</b> |                              | -10,0 | 0      | 10,0 | degree |
| 2110,0 ... 2170,0 MHz                                                           |                              |       |        |      |        |
| <b>Attenuation</b>                                                              | $\alpha$                     |       |        |      |        |
| 180,0 ... 200,0 MHz                                                             |                              | 60    | 80     | —    | dB     |
| 200,0 ... 1000,0 MHz                                                            |                              | 50    | 58     | —    | dB     |
| 1000,0 ... 1880,0 MHz                                                           |                              | 35    | 40     | —    | dB     |
| 1880,0 ... 1980,0 MHz                                                           |                              | 30    | 36     | —    | dB     |
| 1980,0 ... 2050,0 MHz                                                           |                              | 24    | 28     | —    | dB     |
| 2205,0 ... 2255,0 MHz                                                           |                              | 15    | 22     | —    | dB     |
| 2255,0 ... 2300,0 MHz                                                           |                              | 20    | 27     | —    | dB     |
| 2300,0 ... 2490,0 MHz                                                           |                              | 27    | 34     | —    | dB     |
| 2490,0 ... 2550,0 MHz                                                           |                              | 35    | 40     | —    | dB     |
| 2550,0 ... 3200,0 MHz                                                           |                              | 35    | 39     | —    | dB     |
| 3200,0 ... 6000,0 MHz                                                           |                              | 40    | 54     | —    | dB     |



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Operating temperature range:  $T = -20$  to  $+85$  °C  
Terminating source impedance:  $Z_S = 50$   $\Omega$   
Terminating load impedance:  $Z_L = 200$   $\Omega$  (balanced) || 12 nH

|                                                                               |                              | min.  | typ.   | max. |        |
|-------------------------------------------------------------------------------|------------------------------|-------|--------|------|--------|
| <b>Center frequency</b>                                                       | $f_C$                        | —     | 2140,0 | —    | MHz    |
| <b>Maximum insertion attenuation</b>                                          | $\alpha_{\max}$              | —     | 2,8    | 3,2  | dB     |
| 2110,0 ... 2170,0 MHz                                                         |                              |       |        |      |        |
| <b>Amplitude ripple (p-p)</b>                                                 | $\Delta\alpha$               | —     | 1,2    | 1,5  | dB     |
| 2110,0 ... 2170,0 MHz                                                         |                              |       |        |      |        |
| <b>Amplitude ripple per 5MHz channel (p-p)</b>                                | $\Delta\alpha_{5\text{MHz}}$ | —     | 0,3    | 0,5  | dB     |
| 2110,0 ... 2170,0 MHz                                                         |                              |       |        |      |        |
| <b>Input VSWR</b>                                                             |                              | —     | 2,0    | 2,2  |        |
| 2110,0 ... 2170,0 MHz                                                         |                              |       |        |      |        |
| <b>Output VSWR</b>                                                            |                              | —     | 2,0    | 2,2  |        |
| 2110,0 ... 2170,0 MHz                                                         |                              |       |        |      |        |
| <b>Output amplitude balance(<math> S_{31}/S_{21} </math>)</b>                 |                              | -1,0  | 0      | 1,5  | dB     |
| 2110,0 ... 2170,0 MHz                                                         |                              |       |        |      |        |
| <b>Output phase balance(<math>\phi(S_{31})-\phi(S_{21})+180^\circ</math>)</b> |                              | -10,0 | 0      | 15,0 | degree |
| 2110,0 ... 2170,0 MHz                                                         |                              |       |        |      |        |
| <b>Attenuation</b>                                                            | $\alpha$                     |       |        |      |        |
| 180,0 ... 200,0 MHz                                                           |                              | 60    | 80     | —    | dB     |
| 200,0 ... 1000,0 MHz                                                          |                              | 50    | 58     | —    | dB     |
| 1000,0 ... 1880,0 MHz                                                         |                              | 35    | 40     | —    | dB     |
| 1880,0 ... 1980,0 MHz                                                         |                              | 30    | 36     | —    | dB     |
| 1980,0 ... 2050,0 MHz                                                         |                              | 24    | 28     | —    | dB     |
| 2205,0 ... 2255,0 MHz                                                         |                              | 15    | 21     | —    | dB     |
| 2255,0 ... 2300,0 MHz                                                         |                              | 20    | 27     | —    | dB     |
| 2300,0 ... 2490,0 MHz                                                         |                              | 27    | 34     | —    | dB     |
| 2490,0 ... 2550,0 MHz                                                         |                              | 35    | 40     | —    | dB     |
| 2550,0 ... 3200,0 MHz                                                         |                              | 35    | 39     | —    | dB     |
| 3200,0 ... 6000,0 MHz                                                         |                              | 40    | 54     | —    | dB     |



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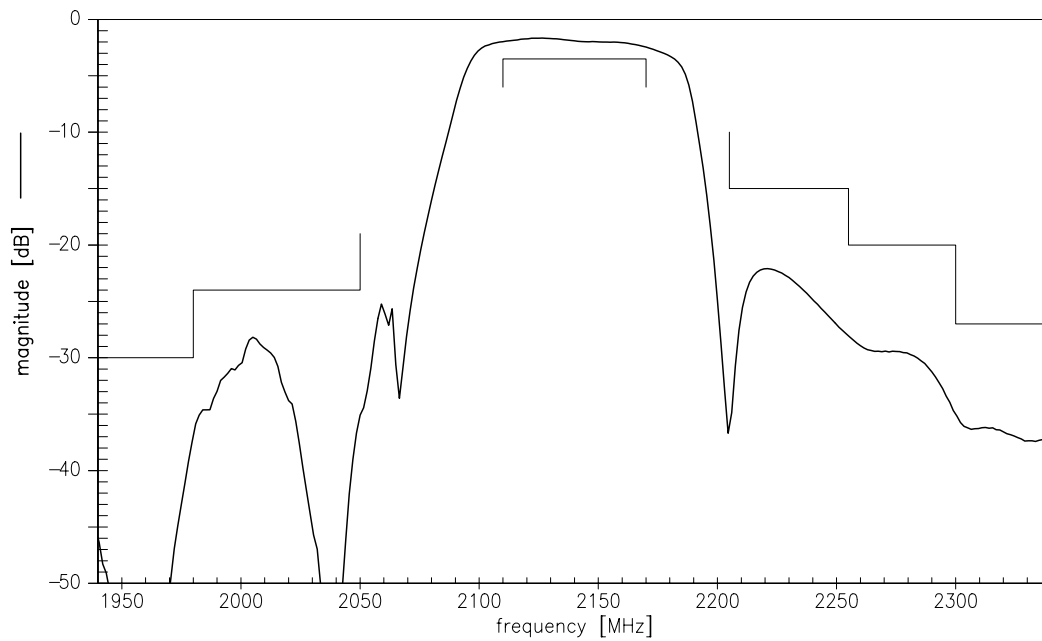
Low-Loss Filter for Mobile Communication

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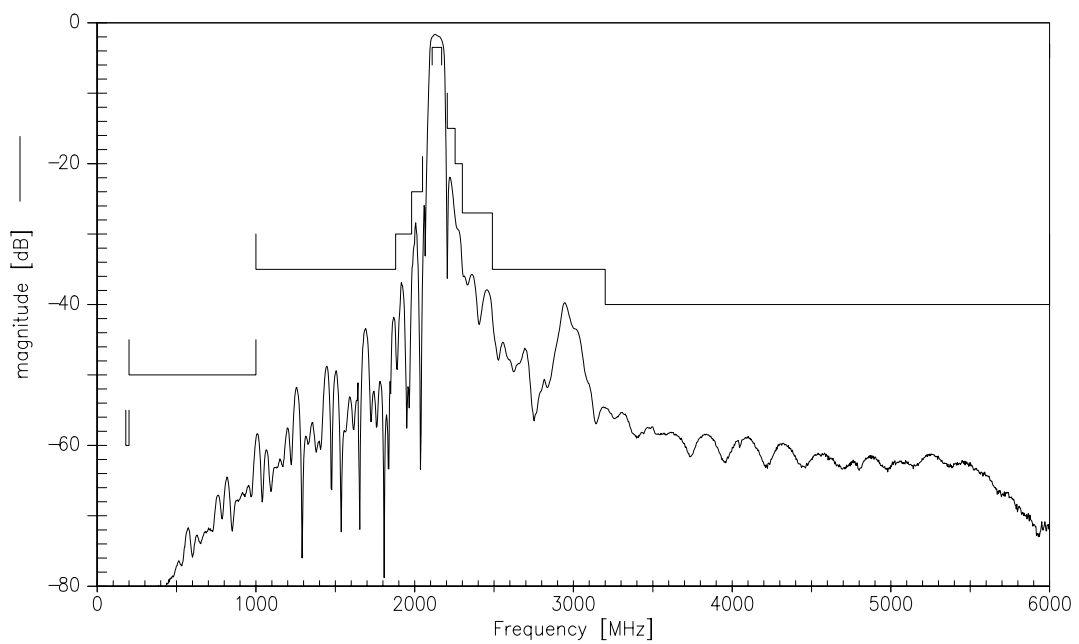
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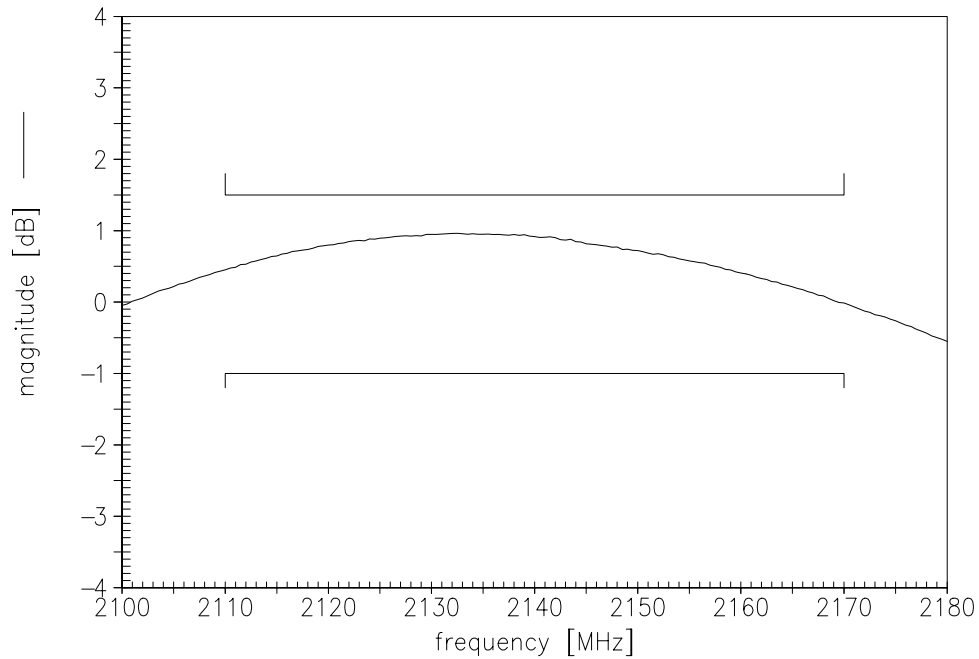
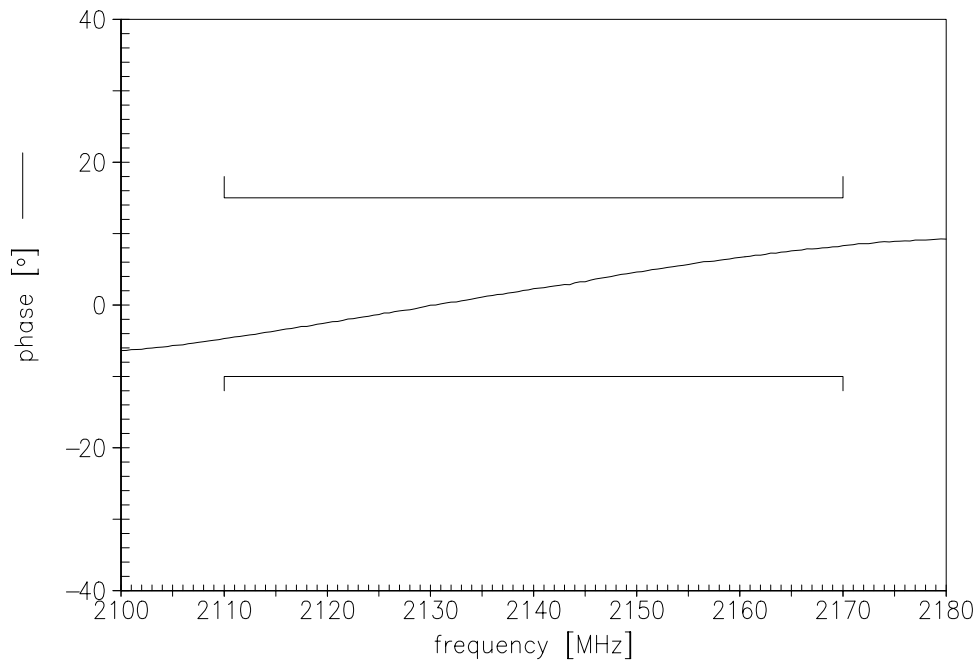


Transfer function:



Transfer function (wide band) :



**Output amplitude balance( $|S_{31}/S_{21}|$ ):****Output phase balance( $\phi(S_{31})-\phi(S_{21})+180^\circ$ ):**



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**B7752**

**Low-Loss Filter for Mobile Communication**

**2140,0 MHz**

Data Sheet



**Published by EPCOS AG**

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

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