



# *SAW Components*

*Data Sheet B4131*

Data Sheet

An abstract, grayscale graphic featuring a globe with a grid pattern, overlaid with a large, stylized, and slightly blurred "EPCOS" logo. The logo is rendered in a light gray, almost white, color, giving it a three-dimensional appearance as if it's floating or attached to the globe. The overall effect is a modern, technological aesthetic.

EPCOS



## SAW Components

B4131

## Low-Loss Filter for Mobile Communication

942,5 MHz

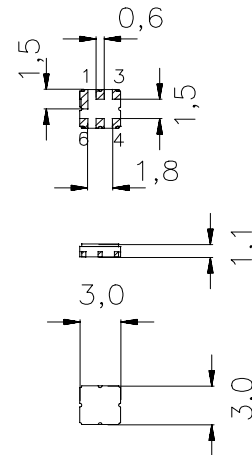
### Data Sheet



Ceramic package **DCC6C**

### Features

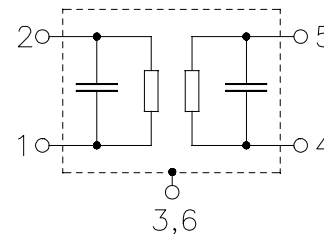
- Low-loss RF filter for EGSM mobile telephone system, receive path
- Low amplitude ripple
- Usable passband 35 MHz
- Ceramic package for **Surface Mounted Technology (SMT)**
- Terminals
- Ni, gold-plated



Dimensions in mm, approx. weight 0,037 g

### Pin configuration

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



| Type  | Ordering code     | Marking and Package according to | Packing according to |
|-------|-------------------|----------------------------------|----------------------|
| B4131 | B39941-B4131-U410 | C61157-A7-A67                    | F61074-V8088-Z000    |

Electrostatic Sensitive Device (ESD)

### Maximum ratings

|                                                                   |           |             |                   |                                                                                                           |
|-------------------------------------------------------------------|-----------|-------------|-------------------|-----------------------------------------------------------------------------------------------------------|
| Operable temperature range                                        | $T$       | - 30 / +85  | °C                |                                                                                                           |
| Storage temperature range                                         | $T_{stg}$ | - 40 / + 85 | °C                |                                                                                                           |
| DC voltage                                                        | $V_{DC}$  | 3           | V                 |                                                                                                           |
| Input power max.<br>880...915 MHz<br>1710...1785 MHz<br>elsewhere | $P_{IN}$  | 5<br>5<br>0 | dBm<br>dBm<br>dBm | source and load impedance 50 $\Omega$<br>peak power of GSM signal,<br>duty cycle 1 : 8<br>continuous wave |



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### Characteristics

Operating temperature range:  $T = +25\text{ }^{\circ}\text{C}$

Terminating source impedance:  $Z_S = 50\text{ }\Omega$

Terminating load impedance:  $Z_L = 50\text{ }\Omega$

|                                                 |                 | min. | typ.  | max. |            |
|-------------------------------------------------|-----------------|------|-------|------|------------|
| <b>Center frequency</b>                         | $f_C$           | —    | 942,5 | —    | MHz        |
| <b>Maximum insertion attenuation</b>            | $\alpha_{\max}$ |      |       |      |            |
| 925,0 ... 960,0 MHz                             |                 | —    | 3,2   | 4,0  | dB         |
| <b>Amplitude ripple (p-p)</b>                   | $\Delta\alpha$  |      |       |      |            |
| 925,0 ... 960,0 MHz                             |                 | —    | 1,4   | 2,5  | dB         |
| <b>Attenuation</b>                              | $\alpha$        |      |       |      |            |
| 0,0 ... 800,0 MHz                               |                 | 50   | 60    | —    | dB         |
| 800,0 ... 880,0 MHz                             |                 | 40   | 52    | —    | dB         |
| 880,0 ... 905,0 MHz                             |                 | 35   | 40    | —    | dB         |
| 905,0 ... 915,0 MHz                             |                 | 20   | 28    | —    | dB         |
| 980,0 ... 1005,0 MHz                            |                 | 23   | 25    | —    | dB         |
| 1005,0 ... 1025,0 MHz                           |                 | 30   | 42    | —    | dB         |
| 1025,0 ... 1760,0 MHz                           |                 | 40   | 50    | —    | dB         |
| 1760,0 ... 2500,0 MHz                           |                 | 30   | 40    | —    | dB         |
| 2500,0 ... 3120,0 MHz                           |                 | 20   | 27    | —    | dB         |
| 3120,0 ... 4000,0 MHz                           |                 | 18   | 25    | —    | dB         |
| 4000,0 ... 6000,0 MHz                           |                 | —    | 10    | —    | dB         |
| <b>Input reflection coefficient @1842,5 MHz</b> |                 |      |       |      |            |
| Phase                                           |                 | -150 | -140  | -130 | $^{\circ}$ |



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## Low-Loss Filter for Mobile Communication

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### Characteristics

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

Terminating source impedance:  $Z_S = 50\text{ }\Omega$

Terminating load impedance:  $Z_L = 50\text{ }\Omega$

|                                                 |                 | min. | typ.  | max. |            |
|-------------------------------------------------|-----------------|------|-------|------|------------|
| <b>Center frequency</b>                         | $f_C$           | —    | 942,5 | —    | MHz        |
| <b>Maximum insertion attenuation</b>            | $\alpha_{\max}$ |      |       |      |            |
| 925,0 ... 960,0 MHz                             |                 | —    | 3,6   | 4,5  | dB         |
| <b>Amplitude ripple (p-p)</b>                   | $\Delta\alpha$  |      |       |      |            |
| 925,0 ... 960,0 MHz                             |                 | —    | 1,8   | 2,5  | dB         |
| <b>Attenuation</b>                              | $\alpha$        |      |       |      |            |
| 0,0 ... 800,0 MHz                               |                 | 50   | 60    | —    | dB         |
| 800,0 ... 880,0 MHz                             |                 | 40   | 52    | —    | dB         |
| 880,0 ... 905,0 MHz                             |                 | 35   | 40    | —    | dB         |
| 905,0 ... 915,0 MHz                             |                 | 20   | 28    | —    | dB         |
| 980,0 ... 1005,0 MHz                            |                 | 20   | 23    | —    | dB 1)      |
| 980,0 ... 1005,0 MHz                            |                 | 23   | 25    | —    | dB 2)      |
| 980,0 ... 982,0 MHz                             |                 | 20   | 23    | —    | dB         |
| 982,0 ... 1005,0 MHz                            |                 | 23   | 27    | —    | dB         |
| 1005,0 ... 1025,0 MHz                           |                 | 30   | 42    | —    | dB         |
| 1025,0 ... 1760,0 MHz                           |                 | 40   | 50    | —    | dB         |
| 1760,0 ... 2500,0 MHz                           |                 | 30   | 40    | —    | dB         |
| 2500,0 ... 3120,0 MHz                           |                 | 20   | 27    | —    | dB         |
| 3120,0 ... 4000,0 MHz                           |                 | 18   | 25    | —    | dB         |
| 4000,0 ... 6000,0 MHz                           |                 | —    | 10    | —    | dB         |
| <b>Input reflection coefficient @1842,5 MHz</b> |                 |      |       |      |            |
| Phase                                           |                 | -150 | -140  | -130 | $^{\circ}$ |

1) specification valid for  $T < 25^{\circ}\text{C}$

2) specification valid for  $T \geq 25^{\circ}\text{C}$



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## Low-Loss Filter for Mobile Communication

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### Characteristics

Operating temperature range:  $T = -30$  to  $+80\text{ }^{\circ}\text{C}$

Terminating source impedance:  $Z_S = 50\text{ }\Omega$

Terminating load impedance:  $Z_L = 50\text{ }\Omega$

|                                                 |                       |  | min. | typ.  | max. |            |
|-------------------------------------------------|-----------------------|--|------|-------|------|------------|
| <b>Center frequency</b>                         | $f_C$                 |  | —    | 942,5 | —    | MHz        |
| <b>Maximum insertion attenuation</b>            | $\alpha_{\max}$       |  |      |       |      |            |
|                                                 | 925,0 ... 960,0 MHz   |  | —    | 3,8   | 4,5  | dB         |
| <b>Amplitude ripple (p-p)</b>                   | $\Delta\alpha$        |  |      |       |      |            |
|                                                 | 925,0 ... 960,0 MHz   |  | —    | 2,1   | 2,8  | dB         |
| <b>Attenuation</b>                              | $\alpha$              |  |      |       |      |            |
|                                                 | 0,0 ... 800,0 MHz     |  | 50   | 60    | —    | dB         |
|                                                 | 800,0 ... 880,0 MHz   |  | 40   | 52    | —    | dB         |
|                                                 | 880,0 ... 905,0 MHz   |  | 35   | 40    | —    | dB         |
|                                                 | 905,0 ... 915,0 MHz   |  | 15   | 28    | —    | dB         |
|                                                 | 980,0 ... 1005,0 MHz  |  | 20   | 23    | —    | dB 1)      |
|                                                 | 980,0 ... 1005,0 MHz  |  | 23   | 25    | —    | dB 2)      |
|                                                 | 980,0 ... 982,0 MHz   |  | 20   | 23    | —    | dB         |
|                                                 | 982,0 ... 1005,0 MHz  |  | 23   | 27    | —    | dB         |
|                                                 | 1005,0 ... 1025,0 MHz |  | 30   | 42    | —    | dB         |
|                                                 | 1025,0 ... 1760,0 MHz |  | 40   | 50    | —    | dB         |
|                                                 | 1760,0 ... 2500,0 MHz |  | 30   | 40    | —    | dB         |
|                                                 | 2500,0 ... 3120,0 MHz |  | 20   | 27    | —    | dB         |
|                                                 | 3120,0 ... 4000,0 MHz |  | 18   | 25    | —    | dB         |
|                                                 | 4000,0 ... 6000,0 MHz |  | —    | 10    | —    | dB         |
| <b>Input reflection coefficient @1842,5 MHz</b> |                       |  |      |       |      |            |
|                                                 | Phase                 |  | -150 | -140  | -130 | $^{\circ}$ |

1) specification valid for  $T < 25^{\circ}\text{C}$

2) specification valid for  $T \geq 25^{\circ}\text{C}$



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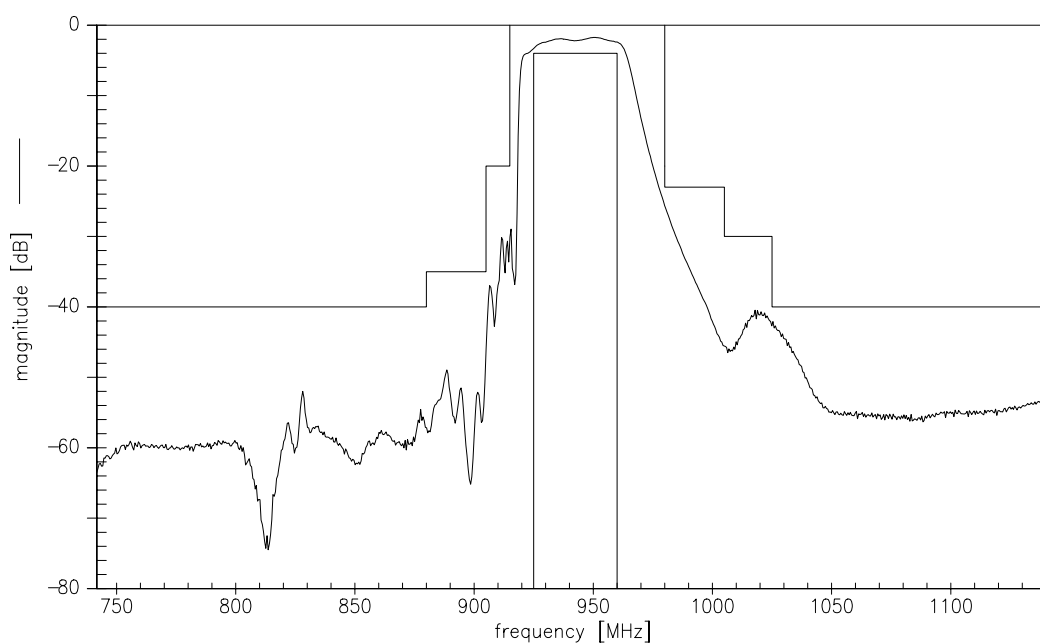
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942,5 MHz

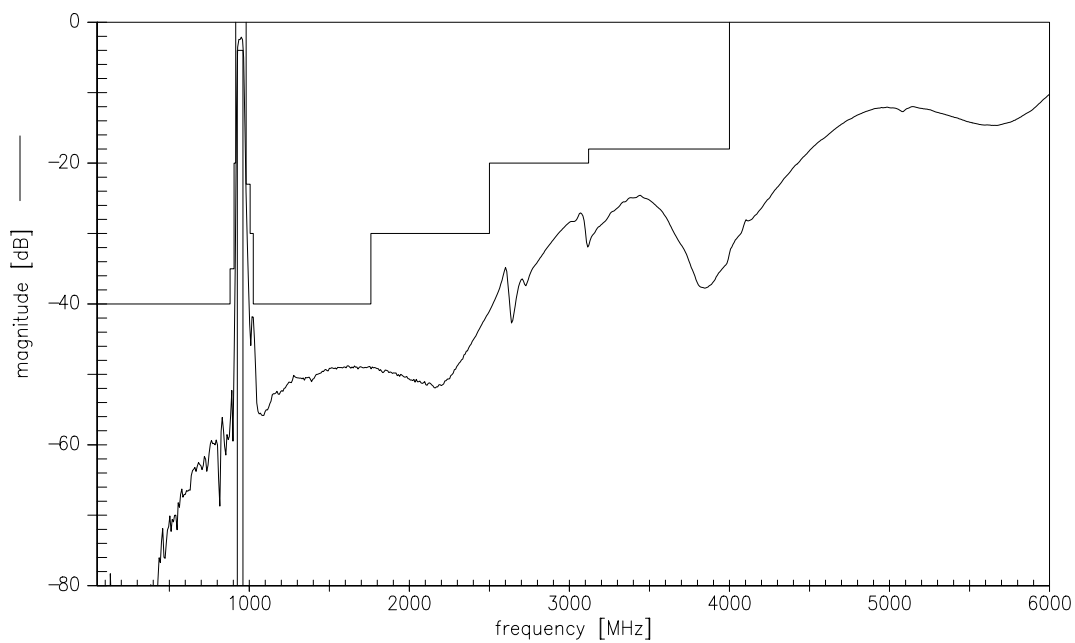
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Transfer function (drawn specification for +25 C)



Transfer function (wideband)





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