



# SAW Components

Data Sheet B5015

Data Sheet

An abstract, grayscale graphic featuring a large, stylized, and slightly blurred "EPCOS" logo. The logo is set against a background of curved, overlapping bands and a faint world map, creating a sense of global connectivity and technology.



## SAW Components

**B5015**

### Low-Loss Filter

**70,0 MHz**

#### Data Sheet

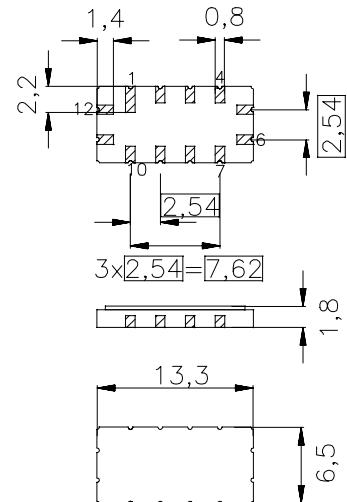
##### Features

- IF low-loss filter for CDMA base station
- Usable bandwidth 10 MHz
- Balanced or unbalanced operation possible
- Ceramic SMD package

##### Terminals

- Gold plated

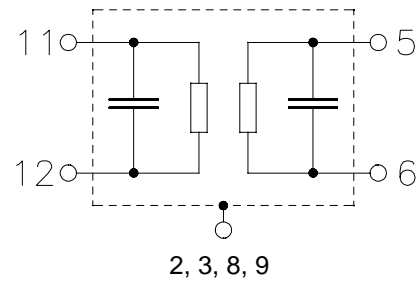
#### Ceramic package QCC12



Dimensions in mm, appr. weight 0,44 g

#### Pin configuration

|             |                |
|-------------|----------------|
| 11          | Input          |
| 12          | Input ground   |
| 5           | Output         |
| 6           | Output ground  |
| 2, 3, 8, 9  | Case ground    |
| 1, 4, 7, 10 | To be grounded |



| Type  | Ordering code         | Marking and Package according to | Packing according to |
|-------|-----------------------|----------------------------------|----------------------|
| B5015 | B39700 - B5015 - Z510 | C61157-A7-A55                    | F61074-V8163-Z000    |

Electrostatic Sensitive Device (ESD)

#### Maximum ratings

|                            |           |           |     |
|----------------------------|-----------|-----------|-----|
| Operable temperature range | $T$       | -40 / +85 | °C  |
| Storage temperature range  | $T_{stg}$ | -40 / +85 | °C  |
| DC voltage                 | $V_{DC}$  | 0         | V   |
| Source power               | $P_s$     | 10        | dBm |



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##### Characteristics

Operating temperature range:

$$T = -10 \dots 75 \text{ }^{\circ}\text{C}$$

Terminating source impedance:

$$Z_S = 50 \text{ } \Omega \text{ and matching network}$$

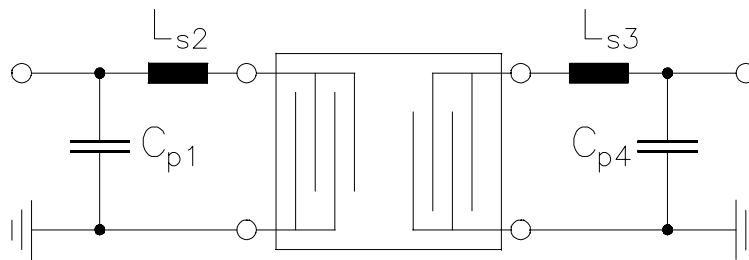
Terminating load impedance:

$$Z_L = 50 \text{ } \Omega \text{ and matching network}$$

|  |  |                       | min.  | typ. | max.  |                        |
|--|--|-----------------------|-------|------|-------|------------------------|
| <b>Nominal frequency</b>   | $f_N$  |                       | —     | 70,0 | —     | MHz                    |
| <b>Minimum insertion attenuation</b>                                 | $\alpha_{\min}$  |                       | —     | 11,1 | 12,5  | dB                     |
| <b>Passband width</b>  | $\alpha_{\text{rel}} \leq 1,2 \text{ dB}$              | $B_{1,2\text{dB}}$    | 11,45 | 11,6 | —     | MHz                    |
| <b>Passband width</b>  | $\alpha_{\text{rel}} \leq 3 \text{ dB}$                | $B_{3\text{dB}}$      | 12,0  | 12,7 | —     | MHz                    |
| <b>Bandwidth</b>   | $\alpha_{\text{rel}} \leq 40 \text{ dB}$               | $B_{40\text{dB}}$     | —     | 16,9 | 18,25 | MHz                    |
| <b>Amplitude ripple (p-p)</b>  | $f_N \pm 5 \text{ MHz}$                                | $\Delta\alpha$        | —     | 0,5  | 1,0   | dB                     |
| <b>Absolute group delay (at <math>f_N</math>)</b>                    |  | $\tau$                | —     | 0,95 | —     | $\mu\text{s}$          |
| <b>Group delay ripple</b>  | $f_N \pm 5 \text{ MHz}$                                | $\Delta\tau$          | —     | 70   | —     | ns                     |
| <b>Phase ripple (p-p)</b>  | $f_N \pm 5 \text{ MHz}$                                | $\Delta\phi$          | —     | 5    | 11,5  | $^{\circ}$             |
| <b>Phase ripple (rms)</b>  | $f_N \pm 5 \text{ MHz}$                                | $\Delta\phi$          | —     | 0,8  | —     | $^{\circ} \text{ rms}$ |
| <b>Relative attenuation (relative to <math>\alpha_{\min}</math>)</b> |  | $\alpha_{\text{rel}}$ |       |      |       |                        |
|  | $f_N \pm 9,2 \text{ MHz} \dots f_N \pm 20 \text{ MHz}$ |                       | 40    | 43   | —     | dB                     |
| <b>Temperature coefficient of frequency</b>                          | $TC_f$   |                       | —     | - 87 | —     | ppm/K                  |

**SAW Components****B5015****Low-Loss Filter****70,0 MHz****Data Sheet****Matching network to 50Ω**

(Element values depend upon PCB layout)



$$C_{p1} = 68 \text{ pF} \quad L_{s2} = 130 \text{ nH}$$

$$L_{s3} = 160 \text{ nH} \quad C_{p4} = 33 \text{ pF}$$



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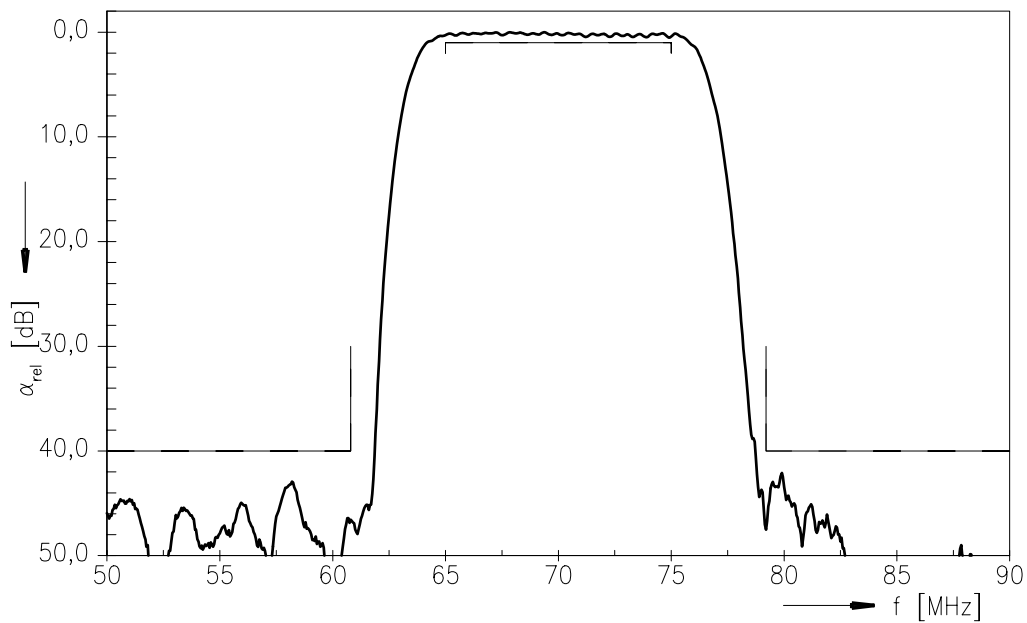
B5015

Low-Loss Filter

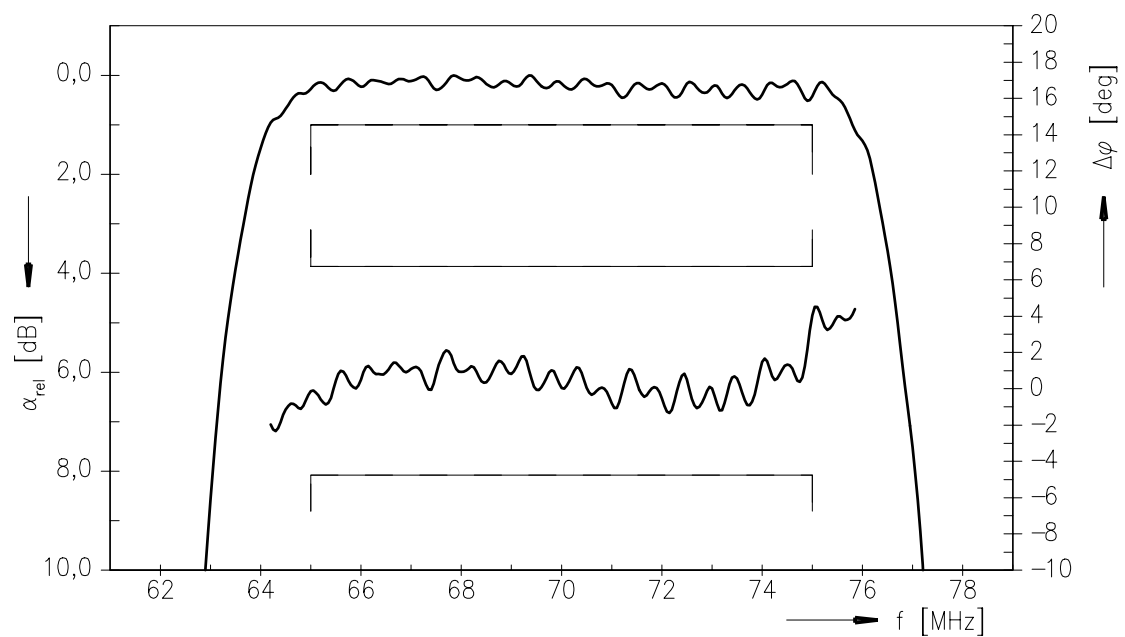
70,0 MHz

Data Sheet

Transfer function



Transfer function (pass band)





|                        |                 |
|------------------------|-----------------|
| <b>SAW Components</b>  | <b>B5015</b>    |
| <b>Low-Loss Filter</b> | <b>70,0 MHz</b> |

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