EPCOS

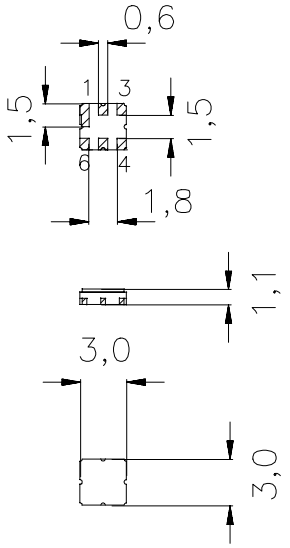
# *SAW Components*

*Data Sheet B4121*

Data Sheet

SMD

Ceramic package **DCC6D**




Dimensions in mm, approx. weight 0,037 g

### Features

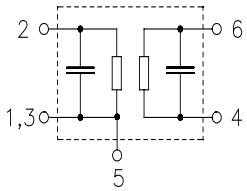
- Low-loss RF filter for mobile telephone EGSM systems, receive path
- Low amplitude ripple
- Usable passband 35 MHz
- Unbalanced to balanced operation
- Impedance transformation from 50 Ω to 150 Ω
- Ceramic package for **S**urface **M**ounted **T**echnology (**SMT**)

### Terminals

- Ni, gold-plated

### Pin configuration

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




| Type | Ordering code | Marking and Package according to | Packing according to |
|---|---|---|---|
| B4121 | B39941-B4121-U510 | C61157-A7-A68 | F61074-V8089-Z000 |

**E**lectrostatic **S**ensitive **D**evice (**ESD**)

### Maximum ratings

| | | | | |
|---|---|---|---|---|
| Operable temperature range | $T$ | – 10 / + 75 | ˚C | |
| Storage temperature range | $T_{stg}$ | – 40 / + 85 | ˚C | |
| DC voltage | $V_{DC}$ | 3 | V | |
| Input power max. | $P_{IN}$ | | | source impedance 50 Ω, |
| 880 ... 915 MHz | | 18 | dBm | load impedance 150 Ω, |
| 1705 ...1785 MHz | | 18 | dBm | CW input for min. 2000 h |

## Characteristics

Operating temperature range: $T$ = 25+-2 °C
Terminating source impedance: $Z_S$ = 50 Ω
Terminating load impedance: $Z_L$ = 150 Ω || 80 nH

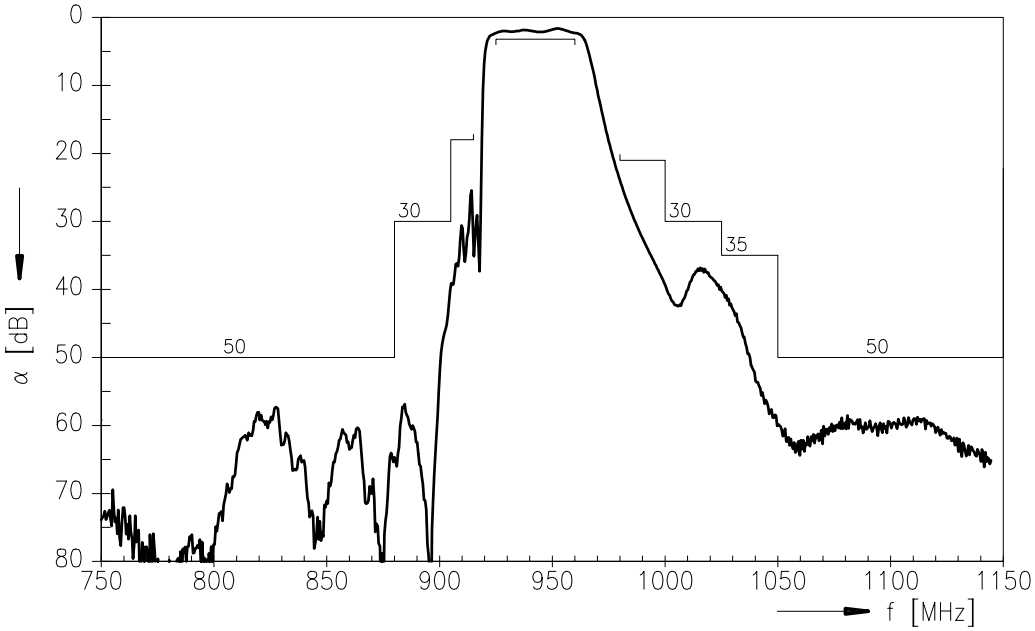
| | | | min. | typ. | max. | |
|---|---|---|---|---|---|---|
| **Center frequency** | | $f_C$ | — | 942,5 | — | MHz |
| **Maximum insertion attenuation** | | $\alpha_{max}$ | | | | |
| | 925,0 ... 960,0 MHz | | — | 2,8 | 3,2 | dB |
| **Amplitude ripple** (p-p) | | $\Delta\alpha$ | | | | |
| | 925,0 ... 960,0 MHz | | — | 1,0 | 1,4 | dB |
| **Attenuation** | | $\alpha$ | | | | |
| | 0,0 ... 600,0 MHz | | 60 | 70 | — | dB |
| | 600,0 ... 880,0 MHz | | 50 | 55 | — | dB |
| | 880,0 ... 905,0 MHz | | 30 | 38 | — | dB |
| | 905,0 ... 915,0 MHz | | 18 | 23 | — | dB |
| | 980,0 ...1000,0 MHz | | 21 | 23 | — | dB |
| | 1000,0 ...1025,0 MHz | | 30 | 37 | — | dB |
| | 1025,0 ...1050,0 MHz | | 35 | 40 | — | dB |
| | 1050,0 ...1500,0 MHz | | 50 | 57 | — | dB |
| | 1500,0 ...2130,0 MHz | | 45 | 55 | — | dB |
| | 2130,0 ...3000,0 MHz | | 40 | 48 | — | dB |
| | 3000,0 ...4050,0 MHz | | 35 | 41 | — | dB |
| | 4050,0 ...5700,0 MHz | | 23 | 30 | — | dB |
| **Symmetry in band** (referenced to the matched operating condition) | | | | | | |
| $\lvert S_{31}\rvert/\lvert S_{21}\rvert$ | 925,0 ... 960,0 MHz | | -1,8 | 0 | 1,2 | dB |
| $\arg(S_{31}/S_{21})$ | 925,0 ... 960,0 MHz | | 170 | 180 | 192 | ° |

## Characteristics

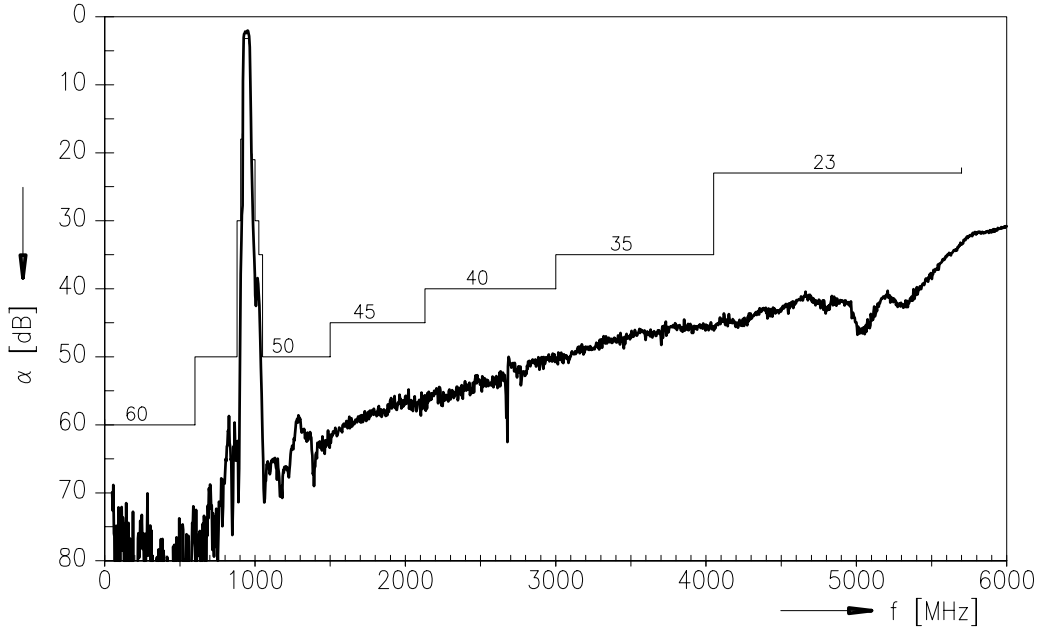
Operating temperature range: $T$ = -10 to +75 °C
Terminating source impedance: $Z_S$ = 50 Ω
Terminating load impedance: $Z_L$ = 150 Ω || 80 nH

| | | | min. | typ. | max. | |
|---|---|---|---|---|---|---|
| **Center frequency** | | $f_C$ | — | 942,5 | — | MHz |
| **Maximum insertion attenuation** | | $\alpha_{max}$ | | | | |
| | 925,0 ... 960,0 MHz | | — | 3,0 | 3,8 | dB |
| **Amplitude ripple** (p-p) | | $\Delta\alpha$ | | | | |
| | 925,0 ... 960,0 MHz | | — | 1,2 | 2,0 | dB |
| **Attenuation** | | $\alpha$ | | | | |
| | 0,0 ... 600,0 MHz | | 60 | 70 | — | dB |
| | 600,0 ... 880,0 MHz | | 50 | 55 | — | dB |
| | 880,0 ... 905,0 MHz | | 28 | 33 | — | dB |
| | 905,0 ... 915,0 MHz | | 18 | 21 | — | dB |
| | 980,0 ...1000,0 MHz | | 20 | 22 | — | dB |
| | 1000,0 ...1025,0 MHz | | 30 | 37 | — | dB |
| | 1025,0 ...1050,0 MHz | | 35 | 40 | — | dB |
| | 1050,0 ...1500,0 MHz | | 50 | 57 | — | dB |
| | 1500,0 ...2130,0 MHz | | 45 | 55 | — | dB |
| | 2130,0 ...3000,0 MHz | | 40 | 48 | — | dB |
| | 3000,0 ...4050,0 MHz | | 35 | 41 | — | dB |
| | 4050,0 ...5700,0 MHz | | 23 | 30 | — | dB |
| **Symmetry in band** (referenced to the matched operating condition) | | | | | | |
| $\lvert S_{31}\rvert/\lvert S_{21}\rvert$ | 925,0 ... 960,0 MHz | | -2,3 | 0 | 1,2 | dB |
| $\arg(S_{31}/S_{21})$ | 925,0 ... 960,0 MHz | | 170 | 180 | 192 | ° |

**Transfer function** ( spec at 25 ˚C )




**Transfer function** ( wideband )



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