![EPCOS logo]

# SAW Components

Data Sheet B7761

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| SAW Components | B7761 |
|---|---|
| **Low-Loss Filter for Mobile Communication** | **836,5 MHz** |

Data Sheet        SMD
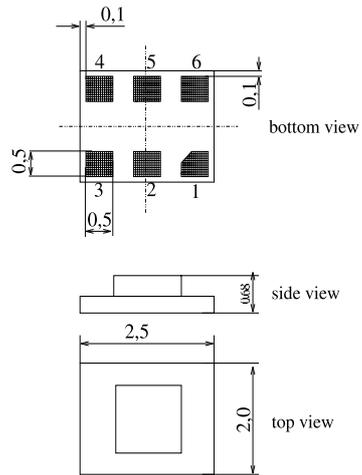
## Features

- Low-loss RF filter for mobile telephone GSM 850 systems, transmit path
- Low amplitude ripple
- Usable passband 25 MHz
- Balanced to unbalanced operation
- Impedance transformation from 100 $\Omega$ to 50 $\Omega$
- Suitable for GPRS class 1 to 12
- Ceramic package for **S**urface **M**ounted **T**echnology (**SMT**)

**Chip sized SAW package DCS6P**



bottom view

side view

top view

Dimensions in mm, approx. weight 0,010 g

## Terminals

- Ni, gold-plated

## Pin configuration

| 4 | Balanced input |
|---|---|
| 6 | Balanced input |
| 2 | Output |
| 1,3,5 | Ground, to be grounded |



| Type | Ordering code | Marking and Package according to | Packing according to |
|---|---|---|---|
| B7761 | B39841-B7761-E410 | C61157-A7-A101 | F61074-V8153-Z000 |
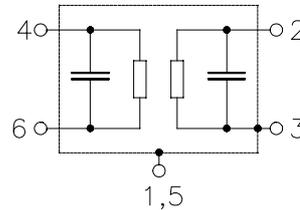
**E**lectrostatic **S**ensitive **D**evice (**ESD**)

## Maximum ratings

| | | | | |
|---|---|---|---|---|
| Operable temperature range | $T$ | – 30 / + 85 | ˚C | |
| Storage temperature range | $T_{stg}$ | – 40 / + 85 | ˚C | |
| DC voltage | $V_{DC}$ | 5 | V | |
| ESD voltage | $V_{ESD}$ | 50 | V | |
| Input power at GSM850, GSM900, GSM1800, GSM1900 Tx bands | $P_{IN}$ | 15 | dBm | peak power of GSM signal, duty cycle 4:8 |

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| | **Low-Loss Filter for Mobile Communication** | **836,5 MHz** |

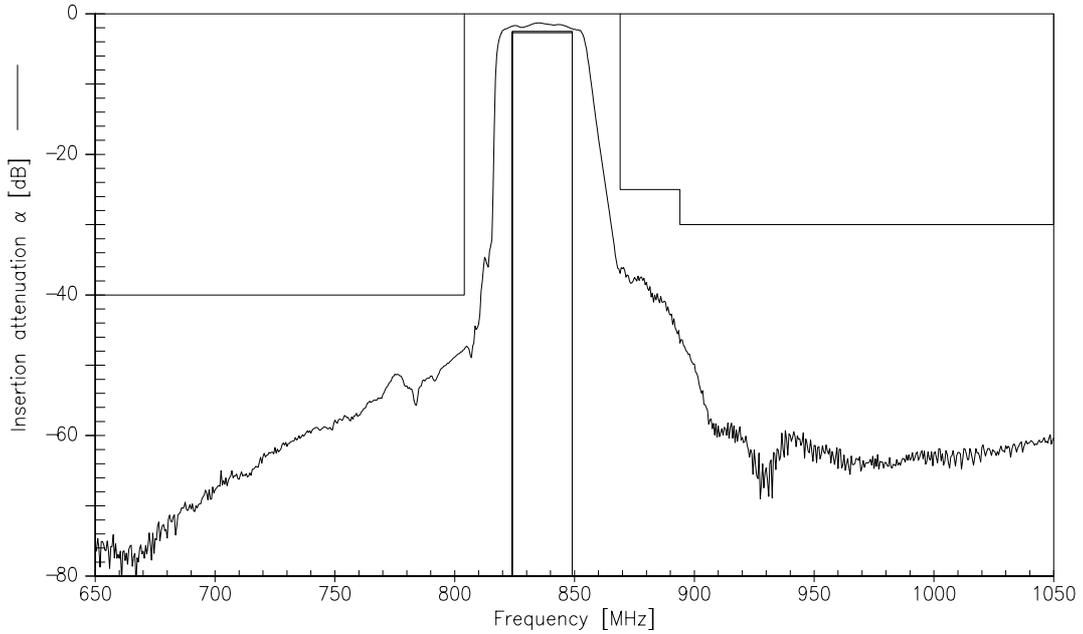**Data Sheet**

**Characteristics**

Operating temperature range:  $T$  = -10 to +85 $^\circ$C
Terminating source impedance:  $Z_S$ = 100 $\Omega$
Terminating load impedance:  $Z_L$ = 50 $\Omega$

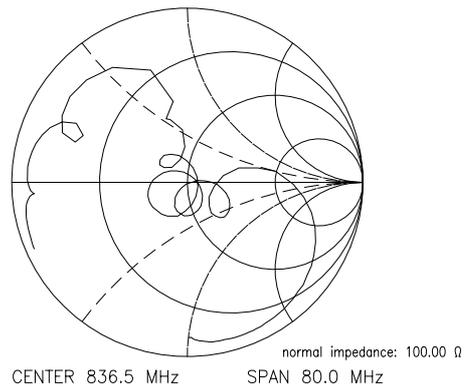| | | **min.** | **typ.** | **max.** | |
|---|---|---|---|---|---|
| **Center frequency** | $f_C$ | — | 836,5 | — | MHz |
| **Maximum insertion attenuation** | $\alpha_{max}$ | | | | |
| 824,0 ... 849,0 MHz | | — | 2,3 | 2,7[1] | dB |
| **Amplitude ripple** (p-p) | $\Delta\alpha$ | | | | |
| 824,0 ... 849,0 MHz | | — | 1,3 | 1,5 | dB |
| **Input VSWR (balanced)** | | | | | |
| 824,0 ... 849,0 MHz | | — | 1,9 | 2,2 | |
| **Output VSWR (unbalanced)** | | | | | |
| 824,0 ... 849,0 MHz | | — | 1,9 | 2,1 | |
| **Attenuation** | $\alpha$ | | | | |
| 0,0 ... 804,0 MHz | | 40,0 | 45,0 | — | dB |
| 869,0 ... 894,0 MHz | | 25,0 | 32,0 | — | dB |
| 894,0 ...1990,0 MHz | | 30,0 | 42,0 | — | dB |
| 1990,0 ...3400,0 MHz | | 25,0 | 35,0 | — | dB |
| 3400,0 ...6000,0 MHz | | 20,0 | 27,0 | — | dB |
| **Amplitude Imbalance** | | - 1,5 | | 1,0 | dB |
| **Phase Imbalance** | | -10,0 | | 10,0 | deg |

1) Maximum I.A from -30 to -10$^\circ$C is 3.0 dB

## Transfer function



## Transfer function (wide band)
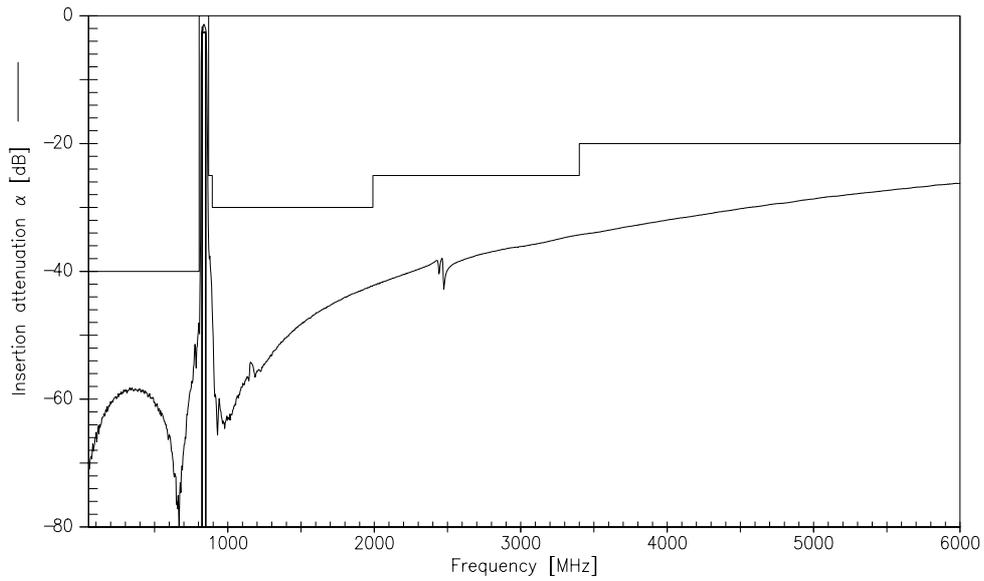
**Reflection functions**

## $S_{11}$
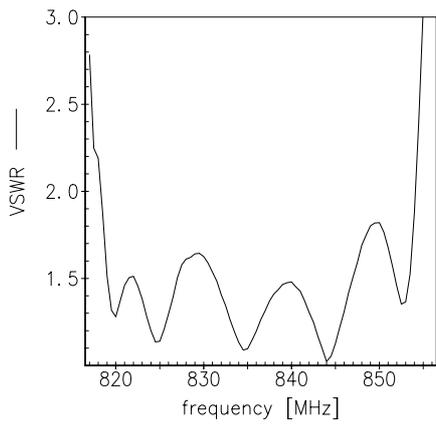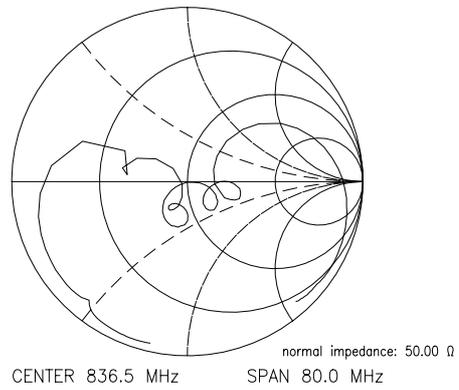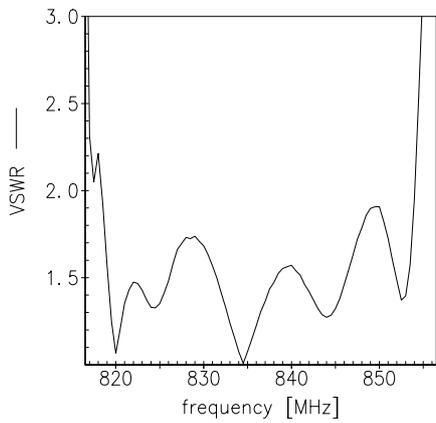
VSWR vs. frequency [MHz]

CENTER 836.5 MHz    SPAN 80.0 MHz

normal impedance: 100.00 Ω

## $S_{22}$

VSWR vs. frequency [MHz]

CENTER 836.5 MHz    SPAN 80.0 MHz

normal impedance: 50.00 Ω

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This brochure replaces the previous edition.

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