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EPCOS

# SAW Components

*Data Sheet B7824*

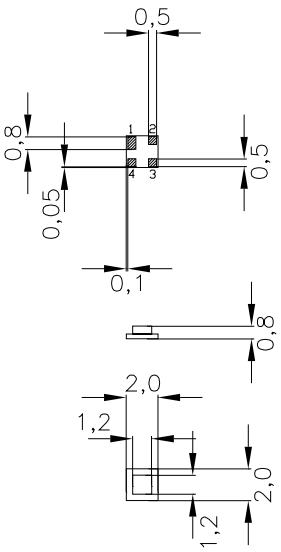
**C**hip **S**ized **S**AW **P**ackage **DCS4A**

## Features

- Low-loss RF filter for mobile telephone PCS systems, receive path
- Usable passband 60 MHz
- No matching network required for operation at 50 Ω
- Suitable for GPRS class 1 to 12
- Package for **S**urface **M**ounted **T**echnology (**SMT**)

## Terminals

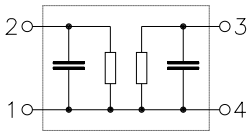
- Ni, gold-plated




Dimensions in mm, approx. weight 0,01 g

## Pin configuration

| | |
|---|---|
| 2 | Input |
| 1 | Input - ground |
| 3 | Output |
| 4 | Output - ground |




| Type | Ordering code | Marking and Package according to | Packing according to |
|---|---|---|---|
| B7824 | B39202-B7824-A510 | C61157-A7-A63 | F61074-V8154-Z000 |

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

## Maximum ratings

| | | | | |
|---|---|---|---|---|
| Operating temperature range | $T$ | – 40/+ 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 | $P_{IN}$ | 15 | dBm | peak power of GSM signal, |
| GSM1800, GSM1900 | $P_{IN}$ | 12 | dBm | duty cycle 4:8 |
| Tx bands | | | | |

Data Sheet SMD

## Characteristics

Operating temperature range: $T$ = +25 +- 2˚C
Terminating source impedance: $Z_S$ = 50 Ω
Terminating load impedance: $Z_L$ = 50 Ω

| | | | min. | typ. | max. | |
|---|---|---|---|---|---|---|
| **Center frequency** | $f_c$ | | — | 1960,0 | — | MHz |
| **Maximum insertion attenuation** | $\alpha_{max}$ | | | | | |
| 1930,0 ...1990,0 | MHz | | — | 2,7 | 3,3 | dB |
| **Amplitude ripple** (p-p) | $\Delta\alpha$ | | | | | |
| 1930,0 ...1990,0 | MHz | | — | 1,3 | 1,9 | dB |
| **Input VSWR** | | | | | | |
| 1930,0 ...1990,0 | MHz | | — | 1,85 | 2,0 | |
| **Output VSWR** | | | | | | |
| 1930,0 ...1990,0 | MHz | | — | 1,85 | 2,0 | |
| **Attenuation** | $\alpha$ | | | | | |
| 10,0 ...1500,0 | MHz | | 19,0 | 21,0 | — | dB |
| 1500,0 ...1800,0 | MHz | | 23,0 | 27,0 | — | dB |
| 1800,0 ...1910,0 | MHz | | 13,0 | 22,0 | — | dB |
| 2010,0 ...2070,0 | MHz | | 11,0 | 18,0 | — | dB |
| 2070,0 ...2800,0 | MHz | | 21,0 | 23,0 | — | dB |
| 2800,0 ...6000,0 | MHz | | 16,0 | 18,0 | — | dB |

## Characteristics

Operating temperature range: $T$ = -10 to +80˚C
Terminating source impedance: $Z_S$ = 50 Ω
Terminating load impedance: $Z_L$ = 50 Ω

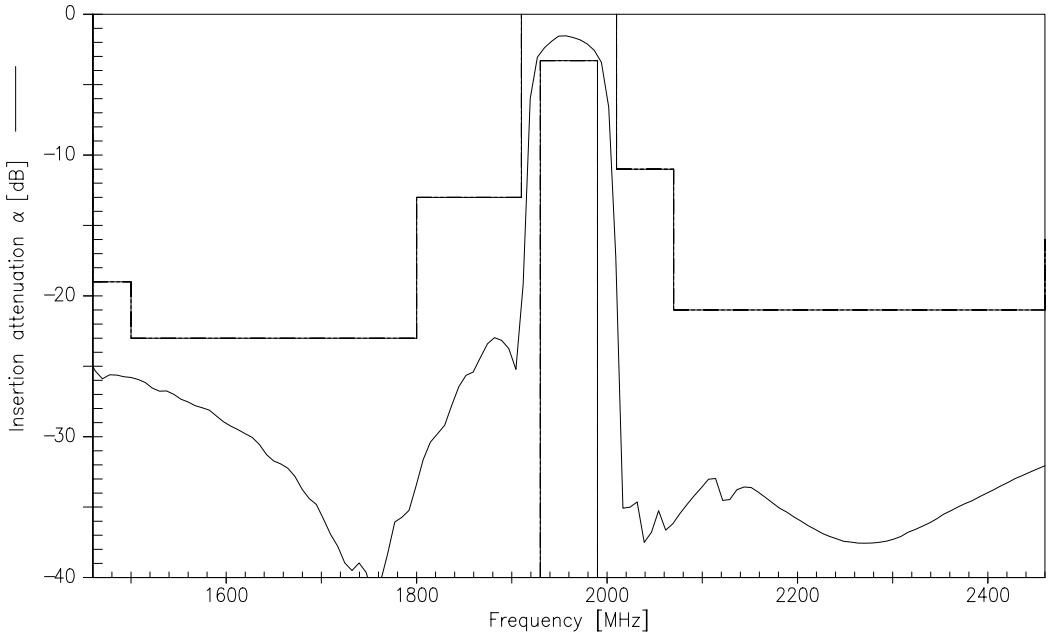
| | | | min. | typ. | max. | |
|---|---|---|---|---|---|---|
| **Center frequency** | | $f_c$ | — | 1960,0 | — | MHz |
| **Maximum insertion attenuation** | | $\alpha_{max}$ | | | | |
| | 1930,0 ...1990,0 MHz | | — | 3,2 | 4,0 | dB |
| **Amplitude ripple** (p-p) | | $\Delta\alpha$ | | | | |
| | 1930,0 ...1990,0 MHz | | — | 1,7 | 2,5 | dB |
| **Input VSWR** | | | | | | |
| | 1930,0 ...1990,0 MHz | | — | 1,85 | 2,0 | |
| **Output VSWR** | | | | | | |
| | 1930,0 ...1990,0 MHz | | — | 1,85 | 2,0 | |
| **Attenuation** | | $\alpha$ | | | | |
| | 10,0 ...1500,0 MHz | | 19,0 | 21,0 | — | dB |
| | 1500,0 ...1800,0 MHz | | 23,0 | 27,0 | — | dB |
| | 1800,0 ...1910,0 MHz | | 8,0 | 15,0 | — | dB |
| | 2010,0 ...2070,0 MHz | | 8,0 | 14,0 | — | dB |
| | 2070,0 ...2800,0 MHz | | 21,0 | 23,0 | — | dB |
| | 2800,0 ...6000,0 MHz | | 16,0 | 18,0 | — | dB |

## Characteristics

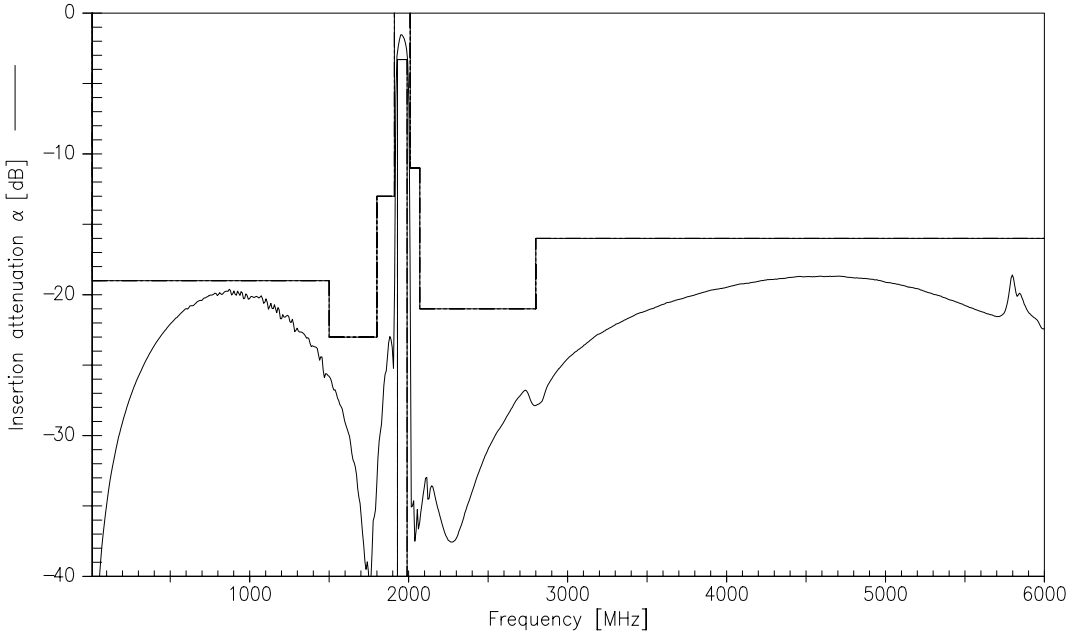
Operating temperature range: $T$ = -30 to +85˚C
Terminating source impedance: $Z_S$ = 50 Ω
Terminating load impedance: $Z_L$ = 50 Ω

| | | | min. | typ. | max. | |
|---|---|---|---|---|---|---|
| **Center frequency** | | $f_c$ | — | 1960,0 | — | MHz |
| **Maximum insertion attenuation** | | $\alpha_{max}$ | | | | |
| | 1930,0 ...1990,0 MHz | | — | 3,3 | 4,3 | dB |
| **Amplitude ripple** (p-p) | | $\Delta\alpha$ | | | | |
| | 1930,0 ...1990,0 MHz | | — | 1,7 | 2,7 | dB |
| **Input VSWR** | | | | | | |
| | 1930,0 ...1990,0 MHz | | — | 1,85 | 2,0 | |
| **Output VSWR** | | | | | | |
| | 1930,0 ...1990,0 MHz | | — | 1,85 | 2,0 | |
| **Attenuation** | | $\alpha$ | | | | |
| | 10,0 ...1500,0 MHz | | 19,0 | 21,0 | — | dB |
| | 1500,0 ...1800,0 MHz | | 23,0 | 27,0 | — | dB |
| | 1800,0 ...1910,0 MHz | | 7,5 | 14,0 | — | dB |
| | 2010,0 ...2070,0 MHz | | 7,0 | 12,0 | — | dB |
| | 2070,0 ...2800,0 MHz | | 21,0 | 23,0 | — | dB |
| | 2800,0 ...6000,0 MHz | | 16,0 | 18,0 | — | dB |

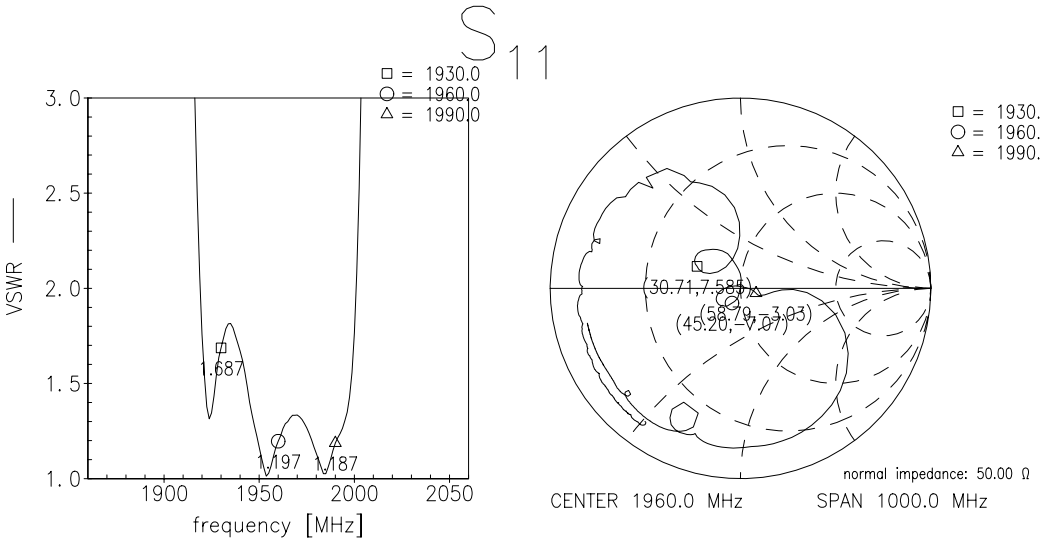
**Transfer Function**(25˚C spec)

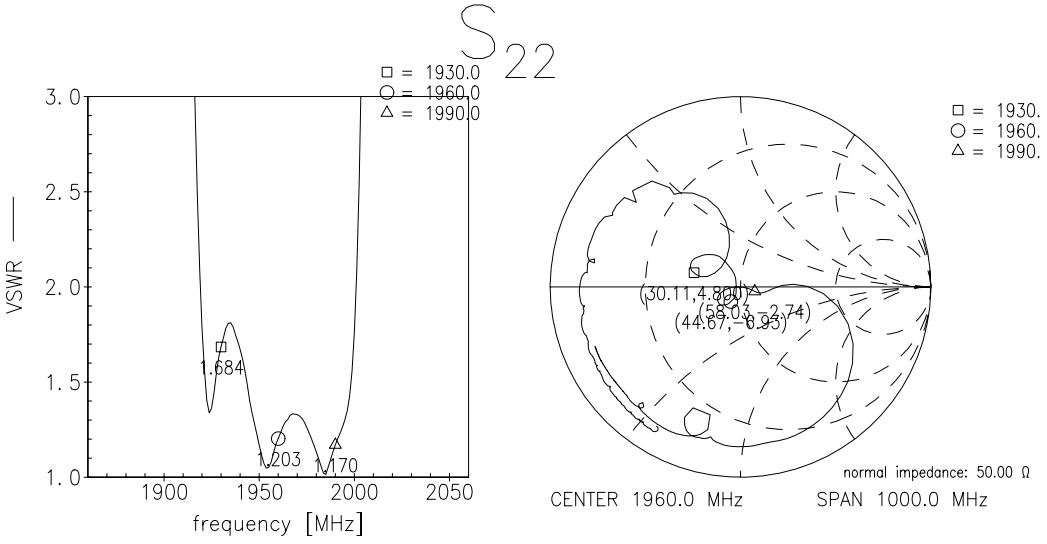



**Transfer function (wideband)**



**Reflection functions**



**Published by EPCOS AG**
**Surface Acoustic Wave Components Division, SAW MC WT**
**P.O. Box 80 17 09, 81617 Munich, GERMANY**



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