



SAW Components

Data Sheet B7845





SAW Components

B7845

Low-Loss Filter for Mobile Communication

881,5 MHz

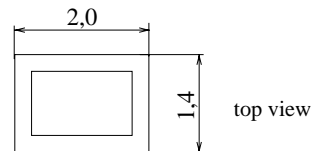
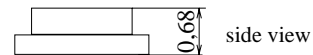
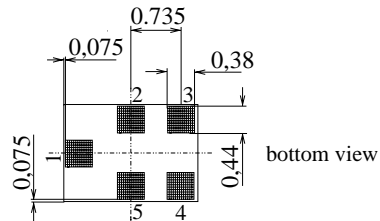
Data Sheet



Features

- Low-loss RF filter for mobile telephone
GSM850 systems, receive path
- Very low insertion attenuation
- Low amplitude ripple
- Usable passband 25 MHz
- Unbalanced to balanced operation
- Impedance transformation from 50 Ω to 150 Ω
- Suitable for GPRS Class 1 to 12
- Ceramic Package for Surface Mounted Technology (SMT)

Chip sized SAW package QCS5E



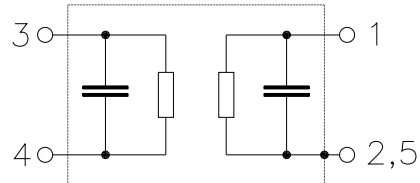
Terminals

- Ni, gold-plated

Dimensions in mm, approx. weight 0,007 g

Pin configuration

- | | |
|------|-------------------|
| 1 | Input, unbalanced |
| 3, 4 | Output, balanced |
| 2, 5 | Case ground |



| Type | Ordering code | Marking and Package according to | Packing according to |
|-------|-------------------|----------------------------------|----------------------|
| B7845 | B39881-B7845-K410 | C61157-A7-A131 | F61074-V8151-Z000 |

Electrostatic Sensitive Device (ESD)

Maximum ratings

| | | | | |
|---|-------------|-------------|-----|---|
| Operable temperature range | T | - 40 / + 85 | °C | machine model, 10 pulses peak power of GSM signal, duty cycle 4:8 |
| Storage temperature range | T_{stg} | - 40 / + 85 | °C | |
| DC voltage | V_{DC} | 5 | V | |
| ESD voltage | V_{ESD}^* | 100* | V | |
| Input power at GSM850, GSM900 GSM1800 and GSM1900 Tx bands | P_{IN} | 15 | dBm | |

* acc. to JESD22-A115A (Machine Model), 10 negative & 10 positive pulses



SAW Components

B7845

Low-Loss Filter for Mobile Communication

881,5 MHz

Data Sheet



Characteristics

Operating temperature range: $T = 25\text{ }^{\circ}\text{C}$
Terminating source impedance: $Z_S = 50\text{ }\Omega$
Terminating load impedance: $Z_L = 150\text{ }\Omega \parallel 82\text{ nH (balanced)}$

| | | min. | typ. | max. | |
|--|-----------------|------|--------------|------|--------|
| Center frequency | f_C | — | 881,5 | — | MHz |
| Maximum insertion attenuation | α_{\max} | — | 1,2 | 1,5 | dB |
| 869,0 ... 894,0 MHz | | | | | |
| Amplitude ripple (p-p) | $\Delta\alpha$ | — | 0,4 | 0,6 | dB |
| 869,0 ... 894,0 MHz | | | | | |
| Input VSWR | | — | 1,5 | 1,8 | |
| 869,0 ... 894,0 MHz | | | | | |
| Output VSWR | | — | 1,5 | 1,8 | |
| 869,0 ... 894,0 MHz | | | | | |
| Attenuation | | | | | |
| 0,0 ... 434,0 MHz | | 45 | 54 | — | dB |
| 434,0 ... 447,0 MHz | | 45 | 52 | — | dB |
| 447,0 ... 849,0 MHz | | 30 | 35 | — | dB |
| 914,0 ... 1000,0 MHz | | 26 | 29 | — | dB |
| 1000,0 ... 1738,0 MHz | | 28 | 38 | — | dB |
| 1738,0 ... 6000,0 MHz | | 40 | 46 | — | dB |
| Amplitude balance ($ S_{31}/S_{21} $) | | | | | |
| 869,0 ... 894,0 MHz | | -1,0 | -0,5 ... 0,0 | 1,0 | dB |
| Phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^{\circ}$) | | | | | |
| 869,0 ... 894,0 MHz | | -5 | -3,0 ... 1,5 | 5 | degree |
| Common mode suppression | S_{sc12} | | | | |
| 869,0 ... 894,0 MHz | | 20 | 26 | — | dB |
| 824,0 ... 995,0 MHz | | 20 | 26 | — | dB |
| 1648,0 ... 1990,0 MHz | | 22 | 40 | — | dB |
| 3296,0 ... 3980,0 MHz | | 20 | 35 | — | dB |



SAW Components

B7845

Low-Loss Filter for Mobile Communication

881,5 MHz

Data Sheet



Characteristics

Operating temperature range: $T = -20$ to $+75$ °C
Terminating source impedance: $Z_S = 50 \Omega$
Terminating load impedance: $Z_L = 150 \Omega \parallel 82 \text{ nH}$ (balanced)

| | | min. | typ. | max. | |
|--|-----------------------|------|--------------|------|--------|
| Center frequency | f_C | — | 881,5 | — | MHz |
| Maximum insertion attenuation | α_{\max} | — | 1,3 | 1,6 | dB |
| | 869,0 ... 894,0 MHz | | | | |
| Amplitude ripple (p-p) | $\Delta\alpha$ | — | 0,6 | 0,8 | dB |
| | 869,0 ... 894,0 MHz | | | | |
| Input VSWR | | — | 1,6 | 1,8 | |
| | 869,0 ... 894,0 MHz | | | | |
| Output VSWR | | — | 1,6 | 1,8 | |
| | 869,0 ... 894,0 MHz | | | | |
| Attenuation | | | | | |
| | 0,0 ... 434,0 MHz | 45 | 54 | — | dB |
| | 434,0 ... 447,0 MHz | 45 | 52 | — | dB |
| | 447,0 ... 849,0 MHz | 30 | 35 | — | dB |
| | 914,0 ... 1000,0 MHz | 26 | 29 | — | dB |
| | 1000,0 ... 1738,0 MHz | 28 | 38 | — | dB |
| | 1738,0 ... 6000,0 MHz | 40 | 46 | — | dB |
| Amplitude balance ($ S_{31}/S_{21} $) | | | | | |
| | 869,0 ... 894,0 MHz | -1,0 | -0,6 ... 0,0 | 1,0 | dB |
| Phase balance ($\phi(S_{31}) - \phi(S_{21}) + 180^\circ$) | | | | | |
| | 869,0 ... 894,0 MHz | -5 | -3,0 ... 1,5 | 5 | degree |
| Common mode suppression | S_{sc12} | | | | |
| | 869,0 ... 894,0 MHz | 20 | 26 | — | dB |
| | 824,0 ... 995,0 MHz | 20 | 26 | — | dB |
| | 1648,0 ... 1990,0 MHz | 22 | 40 | — | dB |
| | 3296,0 ... 3980,0 MHz | 20 | 35 | — | dB |



SAW Components

B7845

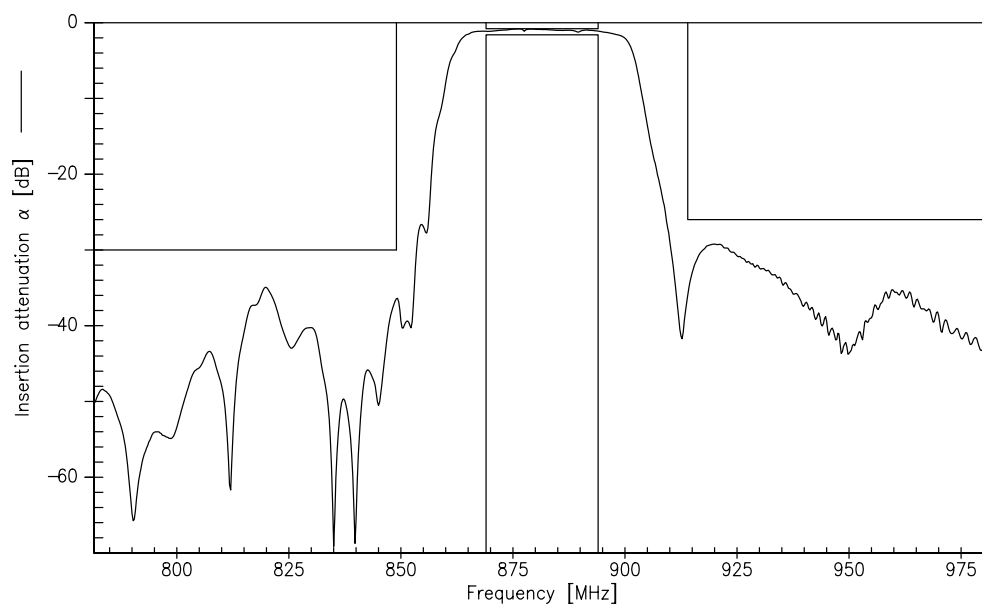
Low-Loss Filter for Mobile Communication

881,5 MHz

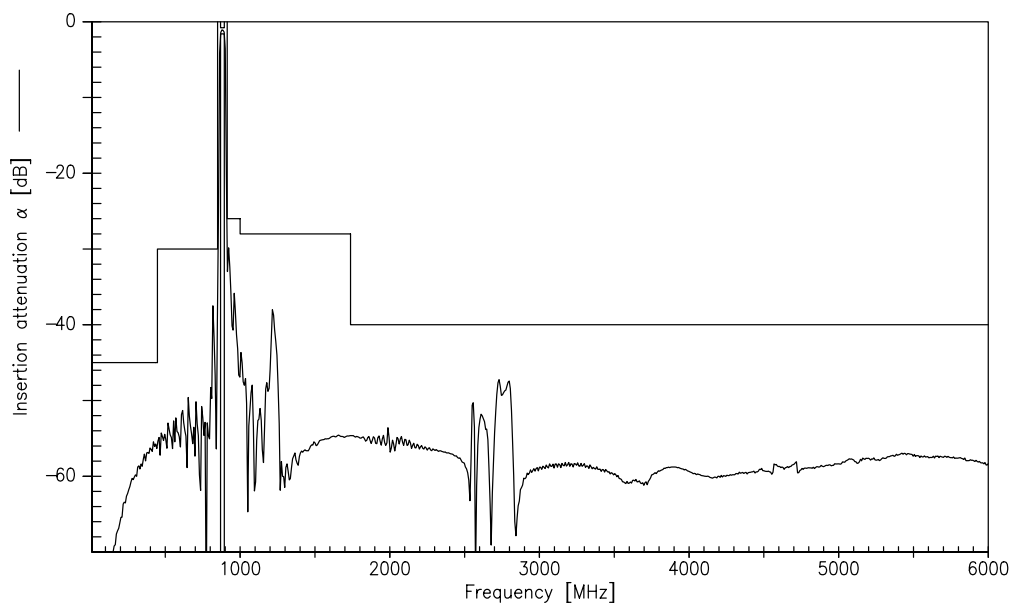
Data Sheet



Transfer function (narrow band)



Transfer function (wideband)





| | |
|---|------------------|
| SAW Components | B7845 |
| Low-Loss Filter for Mobile Communication | 881,5 MHz |
| Data Sheet | SMD |

Published by EPCOS AG
Surface Acoustic Wave Components Division, SAW MC WT
P.O. Box 80 17 09, D-81617 München

© EPCOS AG 2005. Reproduction, publication and dissemination of this brochure and the information contained therein without EPCOS' prior express consent is prohibited.

Purchase orders are subject to the General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry recommended by the ZVEI (German Electrical and Electronic Manufacturers' Association), unless otherwise agreed.

This brochure replaces the previous edition.

For questions on technology, prices and delivery please contact the Sales Offices of EPCOS AG or the international Representatives.

Due to technical requirements components may contain dangerous substances. For information on the type in question please also contact one of our Sales Offices.