



SAW Components

Data Sheet B7845





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B7845

Low-Loss Filter for Mobile Communication

881,5 MHz

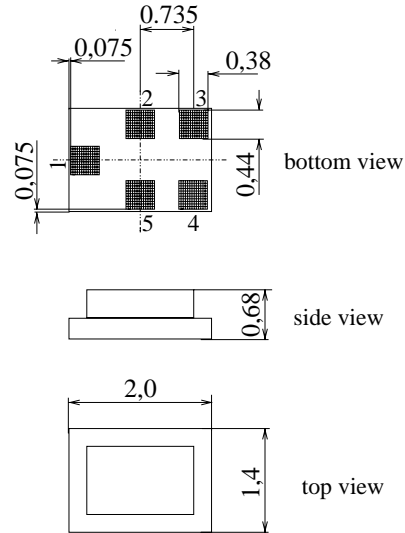
Data Sheet



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



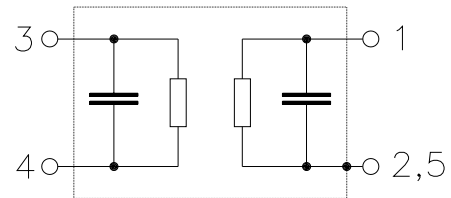
Terminals

- 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



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Characteristics

Operating temperature range: $T = 25\text{ °C}$
 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} | 869,0 ... 894,0 MHz | — | 1,2 | 1,5 | dB |
| Amplitude ripple (p-p) | $\Delta\alpha$ | 869,0 ... 894,0 MHz | — | 0,4 | 0,6 | dB |
| Input VSWR | | 869,0 ... 894,0 MHz | — | 1,5 | 1,8 | |
| Output VSWR | | 869,0 ... 894,0 MHz | — | 1,5 | 1,8 | |
| 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 |



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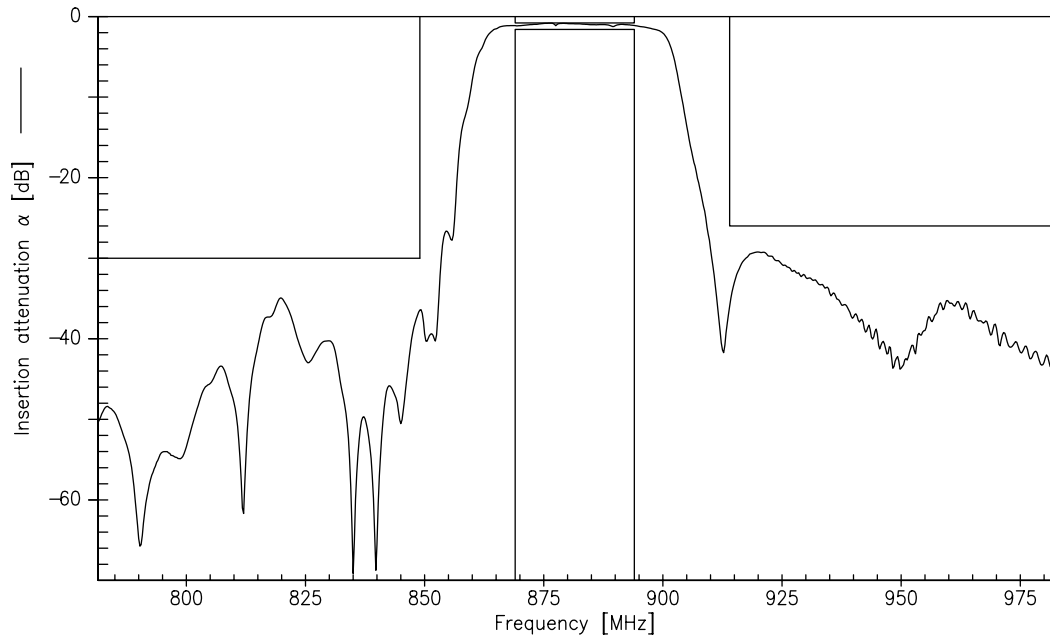
Characteristics

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

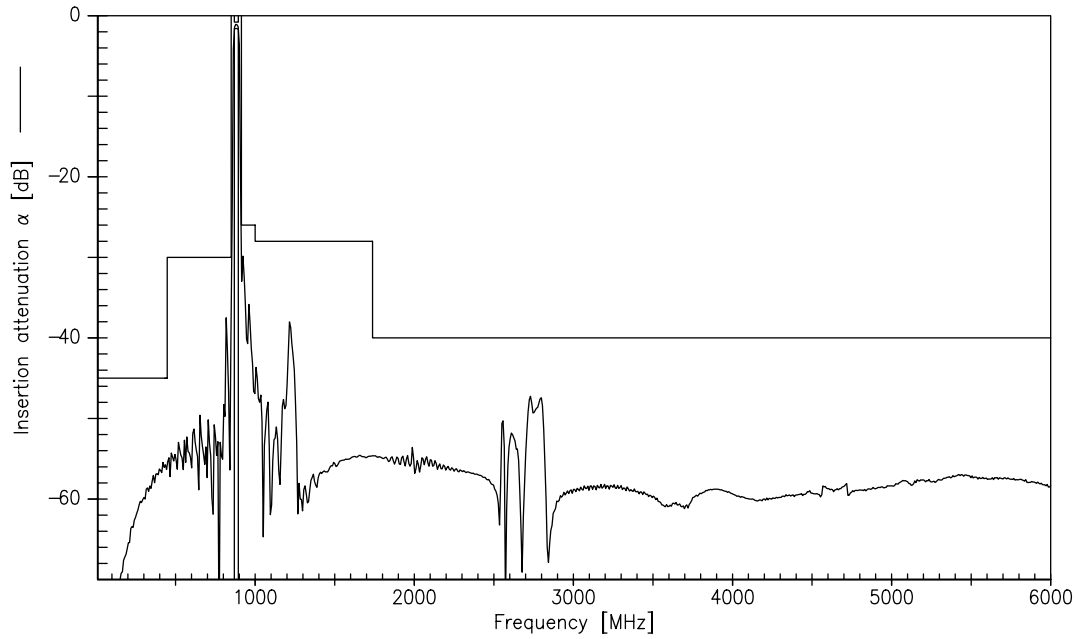
| | | | min. | typ. | max. | |
|---|----------------|-----------------------|------|--------------|------|--------|
| Center frequency | f_C | | — | 881,5 | — | MHz |
| Maximum insertion attenuation | α_{max} | 869,0 ... 894,0 MHz | — | 1,3 | 1,6 | dB |
| Amplitude ripple (p-p) | $\Delta\alpha$ | 869,0 ... 894,0 MHz | — | 0,6 | 0,8 | dB |
| Input VSWR | | 869,0 ... 894,0 MHz | — | 1,6 | 1,8 | |
| Output VSWR | | 869,0 ... 894,0 MHz | — | 1,6 | 1,8 | |
| 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 |
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| Common mode suppression | S_{sc12} | 869,0 ... 894,0 MHz | 20 | 26 | — | dB |
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Transfer function (narrow band)



Transfer function (wideband)





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Published by EPCOS AG

Surface Acoustic Wave Components Division, SAW MC WT

P.O. Box 80 17 09, D-81617 München

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