



SAW Components

Data Sheet B4230

Data Sheet

A large, stylized, 3D-rendered graphic of the EPCOS logo. The letters "EPCOS" are rendered in a white, glowing, sans-serif font, appearing to be part of a larger, curved structure that resembles the top of the EPCOS logo. The background is dark and textured, with a faint map of the world visible.



SAW Components

B4230

Low-Loss Dual Band Filter for Mobile Communication

942,5 / 1842,5 MHz

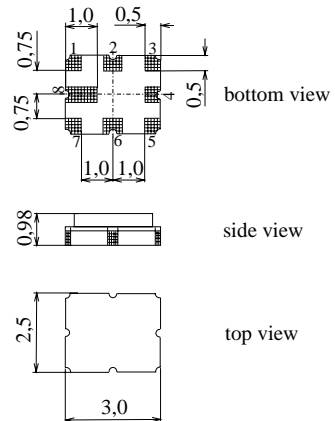
Data Sheet



Ceramic package **QCC8E**

Features

- Low-loss RF filter for mobile telephone EGSM and PCN system , receive path
- Usable passband:
Filter 1 (EGSM): 35 MHz
Filter 2 (PCN): 75 MHz
- Suitable for GPRS class 1 to 12
- Ceramic package for **Surface Mounted Technology (SMT)**



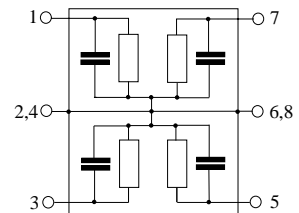
Terminals

- Ni, gold-plated

Dimensions in mm, approx. weight 0,037 g

Pin configuration

- 1 Input [Filter 1]
- 3 Input [Filter 2]
- 5 Output [Filter 2]
- 7 Output [Filter 1]
- 2, 6 to be grounded
- 4, 8 Case ground



| Type | Ordering code | Marking and Package according to | Packing according to |
|-------|-------------------|----------------------------------|----------------------|
| B4230 | B39182-B4230-H410 | C61157-A7-A92 | F61074-V8129-Z000 |

Electrostatic Sensitive Device (ESD)

Maximum ratings

| | | | |
|----------------------------|-----------|-------------|-----|
| Operable temperature range | T | - 20 / + 70 | °C |
| Storage temperature range | T_{stg} | - 40 / + 85 | °C |
| DC voltage | V_{DC} | 3 | V |
| Input power max. | P_{IN} | | |
| EGSM: | | 15 | dBm |
| PCN: | | 12 | dBm |



Characteristics Filter 1 (EGSM)

Operating temperature range: $T = 25 \pm 2^\circ\text{C}$
 Terminating source impedance: $Z_S = 50 \Omega$
 Terminating load impedance: $Z_L = 50 \Omega$

| | | | min. | typ. | max. | |
|--|-----------------|-----------------------|------|--------|------|-----|
| Center frequency | f_c | | — | 942,50 | — | MHz |
| Maximum insertion attenuation | α_{\max} | 925,0 ... 960,0 MHz | — | 2,8 | 3,2 | dB |
| Amplitude ripple (p-p) | $\Delta\alpha$ | 925,0 ... 960,0 MHz | — | 1,7 | 1,9 | dB |
| Input VSWR | | 925,0 ... 960,0 MHz | — | 1,9 | 2,2 | |
| Output VSWR | | 925,0 ... 960,0 MHz | — | 1,9 | 2,2 | |
| Attenuation | α_{\min} | 0,0 ... 800,0 MHz | 18 | 21 | — | dB |
| | | 800,0 ... 880,0 MHz | 20 | 23 | — | dB |
| | | 880,0 ... 905,0 MHz | 25 | 31 | — | dB |
| | | 905,0 ... 915,0 MHz | 15 | 23 | — | dB |
| | | 980,0 ... 1005,0 MHz | 23 | 28 | — | dB |
| | | 1005,0 ... 2000,0 MHz | 20 | 25 | — | dB |
| | | 2000,0 ... 3000,0 MHz | 15 | 19 | — | dB |
| | | 3000,0 ... 6000,0 MHz | 10 | 15 | — | dB |
| Input reflection coefficient @ 1842,5 MHz | | | | | | |
| | Phase | | -160 | -150 | -140 | ° |



Characteristics Filter 1 (EGSM)

Operating temperature range: $T = -20$ to $+70^{\circ}\text{C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 50\ \Omega$

| | | | min. | typ. | max. | |
|--|-----------------|-----------------------|------|--------|------|-----|
| Center frequency | f_c | | — | 942,50 | — | MHz |
| Maximum insertion attenuation | α_{\max} | 925,0 ... 960,0 MHz | — | 3,3 | 3,9 | dB |
| Amplitude ripple (p-p) | $\Delta\alpha$ | 925,0 ... 960,0 MHz | — | 1,9 | 2,1 | dB |
| Input VSWR | | 925,0 ... 960,0 MHz | — | 2,0 | 2,3 | |
| Output VSWR | | 925,0 ... 960,0 MHz | — | 2,0 | 2,3 | |
| Attenuation | α_{\min} | | | | | |
| | | 0,0 ... 800,0 MHz | 18 | 21 | — | dB |
| | | 800,0 ... 880,0 MHz | 20 | 23 | — | dB |
| | | 880,0 ... 905,0 MHz | 25 | 30 | — | dB |
| | | 905,0 ... 915,0 MHz | 15 | 19 | — | dB |
| | | 980,0 ... 1005,0 MHz | 23 | 27 | — | dB |
| | | 1005,0 ... 2000,0 MHz | 20 | 25 | — | dB |
| | | 2000,0 ... 3000,0 MHz | 15 | 19 | — | dB |
| | | 3000,0 ... 6000,0 MHz | 10 | 15 | — | dB |
| Input reflection coefficient @ 1842,5 MHz | | | | | | |
| | Phase | | -160 | -150 | -140 | ° |



Characteristics Filter 2 (PCN)

Operating temperature range: $T = 25 \pm 2^\circ\text{C}$

Terminating source impedance: $Z_S = 50 \Omega$

Terminating load impedance: $Z_L = 50 \Omega$

| | | | | min. | typ. | max. | |
|---|-------------------|-------|-----------------|------|--------|------|-----|
| Center frequency | | f_c | | — | 1842,5 | — | MHz |
| Maximum insertion attenuation | 1805,0 ... 1880,0 | MHz | α_{\max} | — | 2,7 | 3,0 | dB |
| Amplitude ripple (p-p) | 1805,0 ... 1880,0 | MHz | $\Delta\alpha$ | — | 1,3 | 1,6 | dB |
| Input VSWR | 1805,0 ... 1880,0 | MHz | | — | 2,1 | 2,3 | |
| Output VSWR | 1805,0 ... 1880,0 | MHz | | — | 2,1 | 2,3 | |
| Attenuation | 0,0 ... 1480,0 | MHz | α_{\min} | 33 | 37 | — | dB |
| | 1480,0 ... 1765,0 | MHz | | 25 | 29 | — | dB |
| | 1765,0 ... 1785,0 | MHz | | 10 | 12 | — | dB |
| | 1920,0 ... 1980,0 | MHz | | 20 | 24 | — | dB |
| | 1980,0 ... 4000,0 | MHz | | 23 | 27 | — | dB |
| | 4000,0 ... 5000,0 | MHz | | 15 | 22 | — | dB |
| | 5000,0 ... 6000,0 | MHz | | 6 | 9 | — | dB |
| Input reflection coefficient @ 942,5 MHz | | | | | | | |
| | | Phase | | -150 | -140 | -130 | ° |



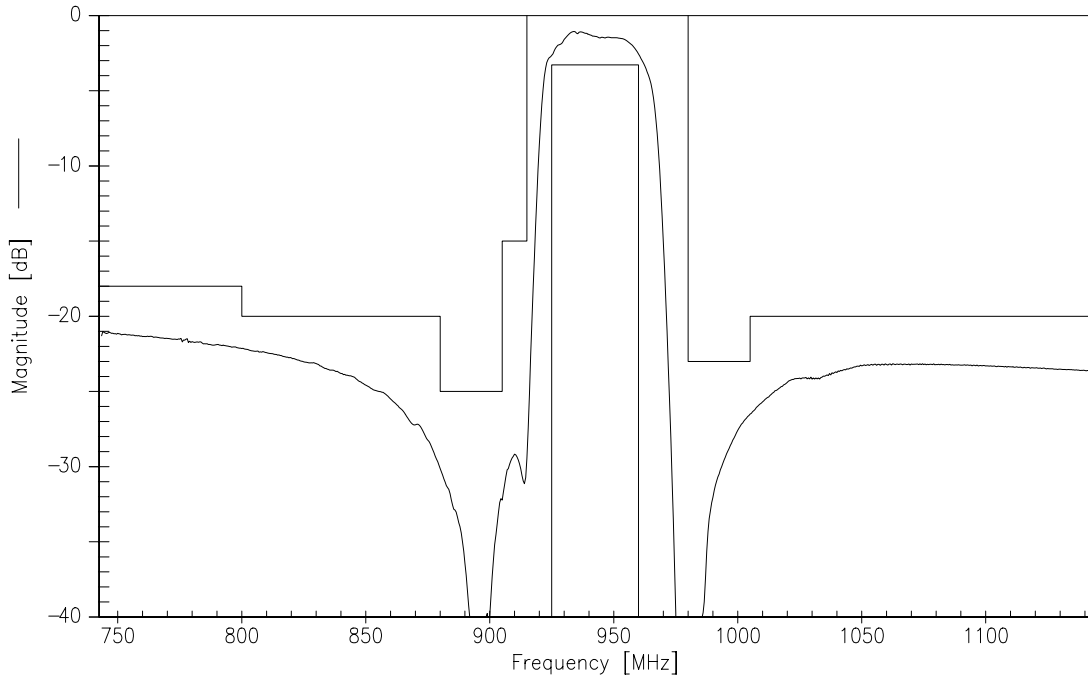
Characteristics Filter 2 (PCN)

Operating temperature range: $T = -20$ to $+70^{\circ}\text{C}$
 Terminating source impedance: $Z_S = 50\ \Omega$
 Terminating load impedance: $Z_L = 50\ \Omega$

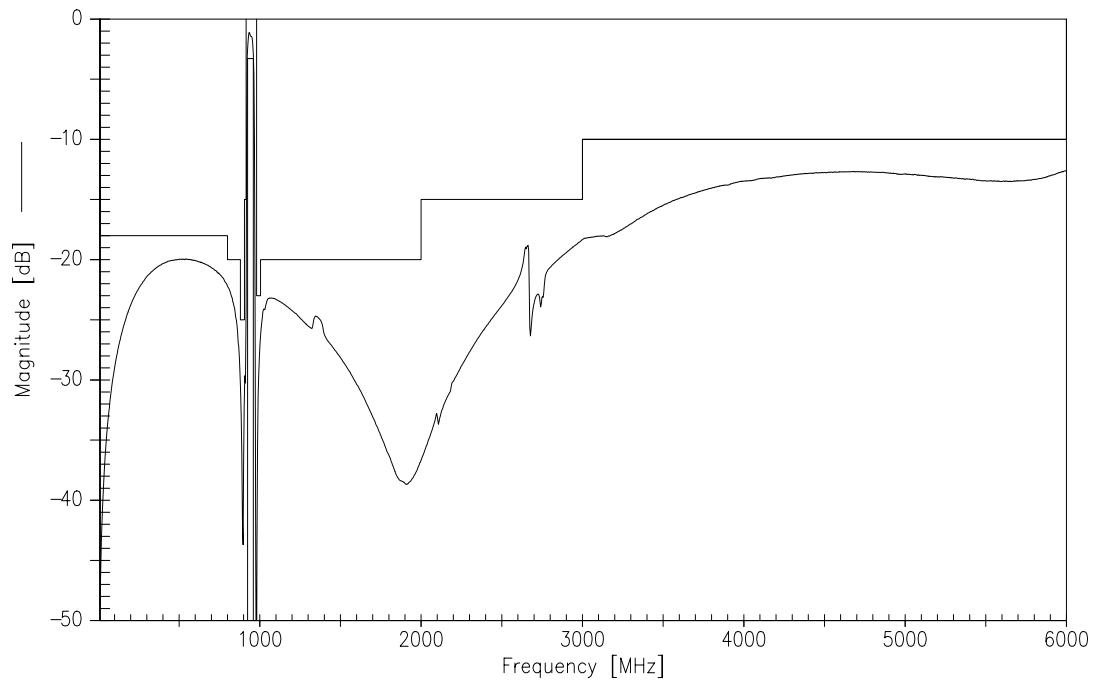
| | | | | min. | typ. | max. | |
|---|-------------------|-------|-----------------|------|--------|------|-----|
| Center frequency | | f_c | | — | 1842,5 | — | MHz |
| Maximum insertion attenuation | 1805,0 ... 1880,0 | | α_{\max} | — | 3,0 | 3,5 | dB |
| | | MHz | | | | | |
| Amplitude ripple (p-p) | 1805,0 ... 1880,0 | | $\Delta\alpha$ | — | 1,5 | 1,8 | dB |
| | | MHz | | | | | |
| Input VSWR | 1805,0 ... 1880,0 | | | — | 2,1 | 2,3 | |
| | | MHz | | | | | |
| Output VSWR | 1805,0 ... 1880,0 | | | — | 2,1 | 2,3 | |
| | | MHz | | | | | |
| Attenuation | | | α_{\min} | | | | |
| | 0,0 ... 1480,0 | MHz | | 33 | 37 | — | dB |
| | 1480,0 ... 1765,0 | MHz | | 25 | 29 | — | dB |
| | 1765,0 ... 1785,0 | MHz | | 9 | 11 | — | dB |
| | 1920,0 ... 1980,0 | MHz | | 20 | 24 | — | dB |
| | 1980,0 ... 4000,0 | MHz | | 23 | 26 | — | dB |
| | 4000,0 ... 5000,0 | MHz | | 15 | 22 | — | dB |
| | 5000,0 ... 6000,0 | MHz | | 6 | 9 | — | dB |
| Input reflection coefficient @ 942,5 MHz | | | | | | | |
| | | Phase | | -150 | -140 | -130 | ° |



Transfer function Filter 1 (EGSM)- spec at 25 °C

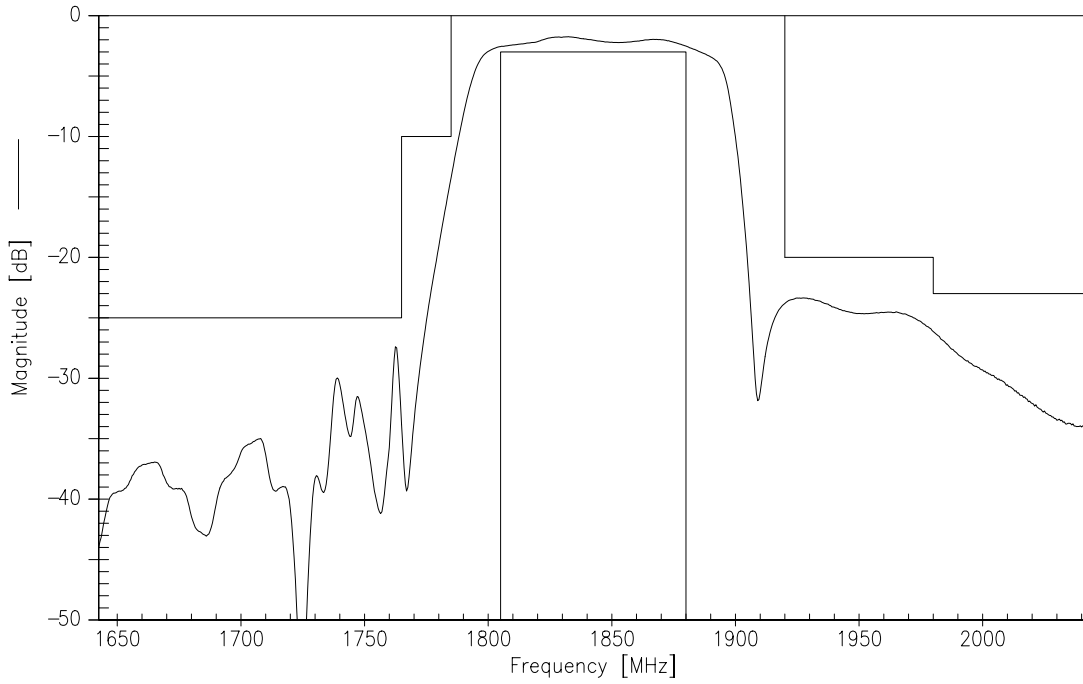


Transfer function Filter 1 (EGSM) - wideband

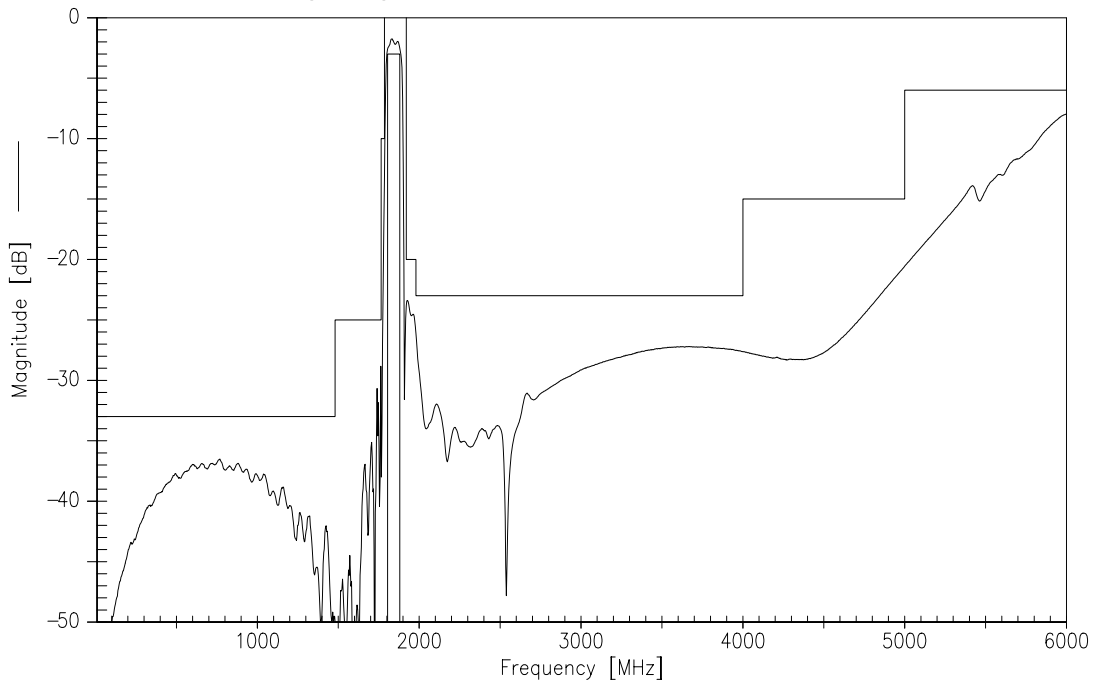




Transfer function Filter 2 (PCN) - spec at 25 °C



Transfer function Filter 2 (PCN) - wideband





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