



SAW Components

Preliminary Data Sheet B4229





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B4229

Low-Loss Filter for Mobile Communication

836,5 / 881,5 MHz

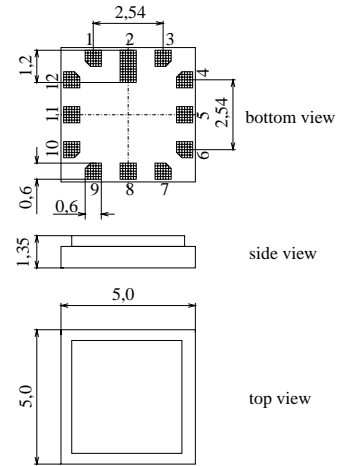
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Features

- Low-loss duplexer for cellular band mobile telephone systems
- 50 Ω ports by integrated matching network
- Multifunctional ceramic base material for **Surface Mounted Technology (SMT)**
- Small size and low height

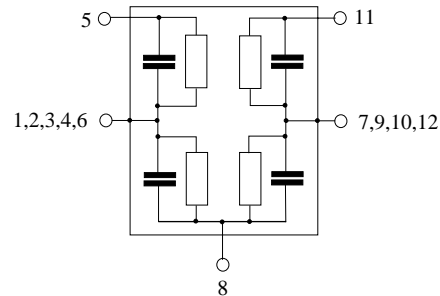
Chip sized SAW package QCS12C



Dimensions in mm, approx. weight 0,13 g

Pin configuration

- | | |
|---------------|-----------|
| 5 | RX Output |
| 11 | TX Input |
| 8 | Antenna |
| 1, 2, 3, 4, 6 | Ground |
| 7, 9, 10, 12 | Ground |



| Type | Ordering code | Marking and Package according to | Packing according to |
|-------|-------------------|----------------------------------|----------------------|
| B4229 | B39881-B4229-D510 | C61157-A3-A3 | F61074-V8159-Z000 |

Electrostatic Sensitive Device (ESD)

Maximum ratings

| | | | | |
|----------------------------------|-----------|-----------|-----|---|
| Operating temperature range | T | - 30/+ 85 | °C | source and load impedance 50 Ω } continuous wave } wave |
| Storage temperature range | T_{stg} | - 40/+ 85 | °C | |
| DC voltage | V_{DC} | 0 | V | |
| Input power max. | P_{IN} | 30 | dBm | |
| 824,0 ... 849,0 MHz elsewhere | | 10 | dBm | |



Characteristics

Reference temperature $T = 25 \pm 2^\circ\text{C}$
 ANT terminating impedance $Z_{\text{ANT}} = 50 \Omega$
 RX terminating impedance $Z_{\text{RX}} = 50 \Omega$
 TX terminating impedance $Z_{\text{TX}} = 50 \Omega$

| Characteristics TX - ANT | | min. | typ. | max. | |
|-------------------------------|-----------------------|------|-------|------|-----|
| Center frequency | f_c | — | 836,5 | — | MHz |
| Maximum insertion attenuation | α_{max} | — | 2,2 | 2,4 | dB |
| 824,00 ... 849,00 MHz | | | | | |
| Amplitude ripple (p-p) | $\Delta\alpha$ | — | 0,8 | 1,1 | dB |
| 824,00 ... 849,00 MHz | | | | | |
| Return loss | | 7,5 | 8,2 | — | dB |
| 824,00 ... 849,00 MHz | | | | | |
| Attenuation | α | | | | |
| 0,03 ... 800,00 MHz | | 21 | 32 | — | dB |
| 869,00 ... 894,00 MHz | | 44 | 46 | — | dB |
| 914,00 ... 1004,00 MHz | | 30 | 34 | — | dB |
| 1004,00 ... 3200,00 MHz | | 20 | 23 | — | dB |
| 1648,00 ... 1698,00 MHz | | 30 | 38 | — | dB |
| 2472,00 ... 2547,00 MHz | | 20 | 25 | — | dB |

| Characteristics ANT - RX | | min. | typ. | max. | |
|-------------------------------|-----------------------|------|-------|------|-----|
| Center frequency | f_c | — | 881,5 | — | MHz |
| Maximum insertion attenuation | α_{max} | — | 2,9 | 3,3 | dB |
| 869,00 ... 894,00 MHz | | | | | |
| Amplitude ripple (p-p) | $\Delta\alpha$ | — | 1,0 | 1,8 | dB |
| 869,00 ... 894,00 MHz | | | | | |
| Return loss | | 9,0 | 10,0 | — | dB |
| 869,00 ... 894,00 MHz | | | | | |
| Attenuation | α | | | | |
| 0,03 ... 824,00 MHz | | 35 | 40 | — | dB |
| 824,00 ... 849,00 MHz | | 54 | 55 | — | dB |
| 914,00 ... 1000,00 MHz | | 36 | 40 | — | dB |
| 1000,00 ... 1200,00 MHz | | 36 | 39 | — | dB |
| 1200,00 ... 3200,00 MHz | | 30 | 35 | — | dB |

| Characteristics TX - RX | | min. | typ. | max. | |
|----------------------------------|----------|------|------|------|----|
| Isolation between TX and RX path | α | | | | |
| 824,00 ... 849,00 MHz | | 54 | 56 | — | dB |
| 869,00 ... 894,00 MHz | | 45 | 46 | — | dB |



Characteristics

Reference temperature $T = -30$ to 85 °C
 ANT terminating impedance $Z_{ANT} = 50$ Ω
 RX terminating impedance $Z_{RX} = 50$ Ω
 TX terminating impedance $Z_{TX} = 50$ Ω

| Characteristics TX - ANT | | min. | typ. | max. | | |
|-------------------------------|----------------|------------------------|-------|------|-----|--|
| Center frequency | f_c | — | 836,5 | — | MHz | |
| Maximum insertion attenuation | α_{max} | — | 2,2 | 2,5 | dB | |
| 824,00 ... 849,00 MHz | | | | | | |
| Amplitude ripple (p-p) | $\Delta\alpha$ | — | 0,8 | 1,1 | dB | |
| 824,00 ... 849,00 MHz | | | | | | |
| Return loss | | 7,5 | 8,2 | — | dB | |
| 824,00 ... 849,00 MHz | | | | | | |
| Attenuation | α | 21 | 32 | — | dB | |
| | | 0,03 ... 800,00 MHz | | | | |
| | | 44 | 45 | — | | |
| | | 869,00 ... 894,00 MHz | | | | |
| | | 30 | 34 | — | | |
| | | 914,00 ... 1004,00 MHz | | | | |
| 20 | 23 | — | | | | |
| 30 | 38 | — | | | | |
| 1648,00 ... 1698,00 MHz | | | | | | |
| 20 | 25 | — | | | | |
| 2472,00 ... 2547,00 MHz | | | | | | |

| Characteristics ANT - RX | | min. | typ. | max. | | |
|-------------------------------|----------------|------------------------|-------|------|-----|--|
| Center frequency | f_c | — | 881,5 | — | MHz | |
| Maximum insertion attenuation | α_{max} | — | 3,4 | 3,8 | dB | |
| 869,00 ... 894,00 MHz | | | | | | |
| Amplitude ripple (p-p) | $\Delta\alpha$ | — | 1,5 | 2,3 | dB | |
| 869,00 ... 894,00 MHz | | | | | | |
| Return loss | | 9,0 | 10,0 | — | dB | |
| 869,00 ... 894,00 MHz | | | | | | |
| Attenuation | α | 35 | 40 | — | dB | |
| | | 0,03 ... 824,00 MHz | | | | |
| | | 53 | 54 | — | | |
| | | 824,00 ... 849,00 MHz | | | | |
| | | 36 | 40 | — | | |
| | | 914,00 ... 1000,00 MHz | | | | |
| 36 | 39 | — | | | | |
| 1000,00 ... 1200,00 MHz | | | | | | |
| 30 | 35 | — | | | | |
| 1200,00 ... 3200,00 MHz | | | | | | |

| Characteristics TX - RX | | min. | typ. | max. | |
|----------------------------------|----------|------|------|------|----|
| Isolation between TX and RX path | α | 52 | 53 | — | dB |
| 824,00 ... 849,00 MHz | | | | | |
| 869,00 ... 894,00 MHz | | 45 | 46 | — | dB |
| | | | | | |



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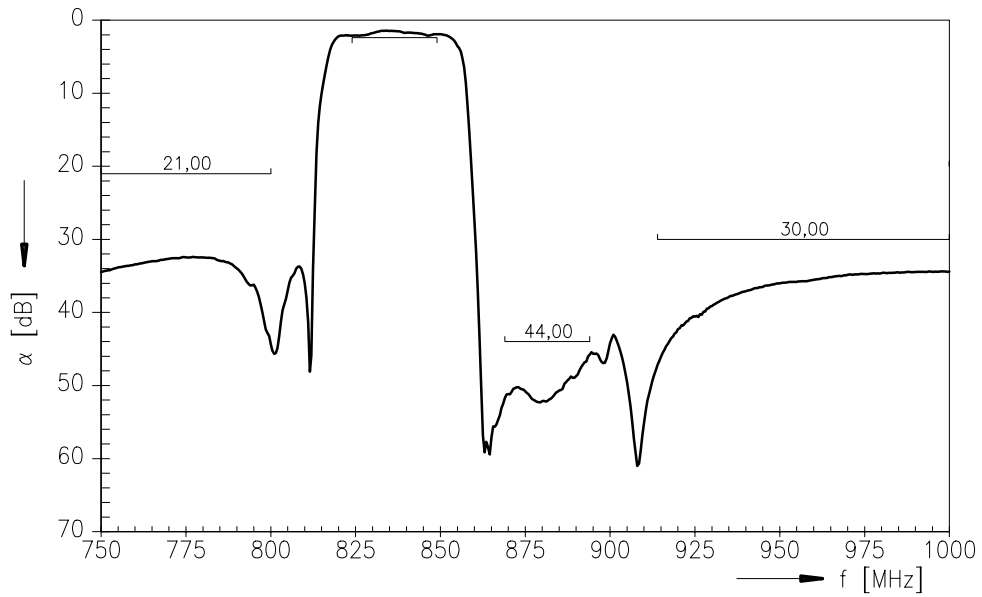
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836,5 / 881,5 MHz

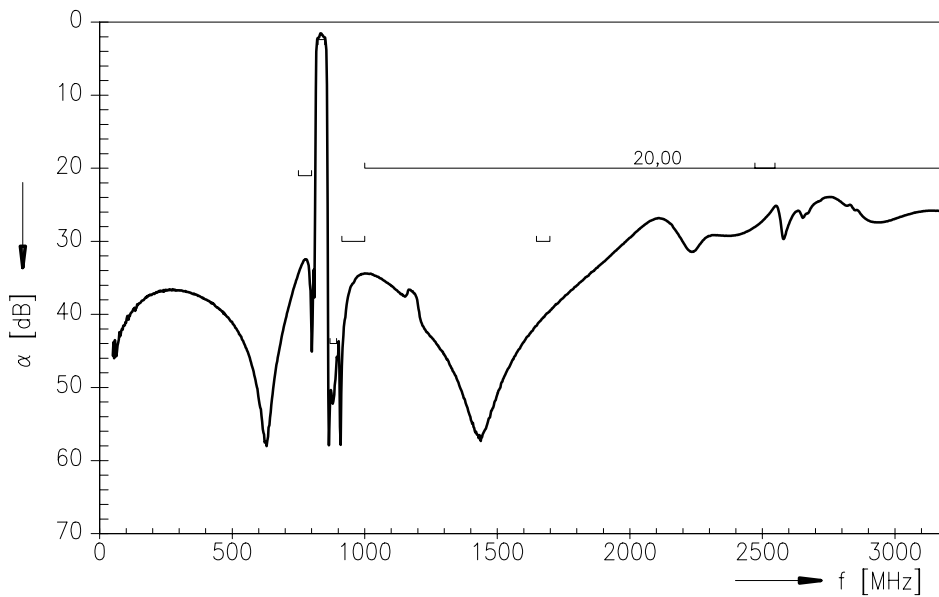
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Frequency Response TX - ANT

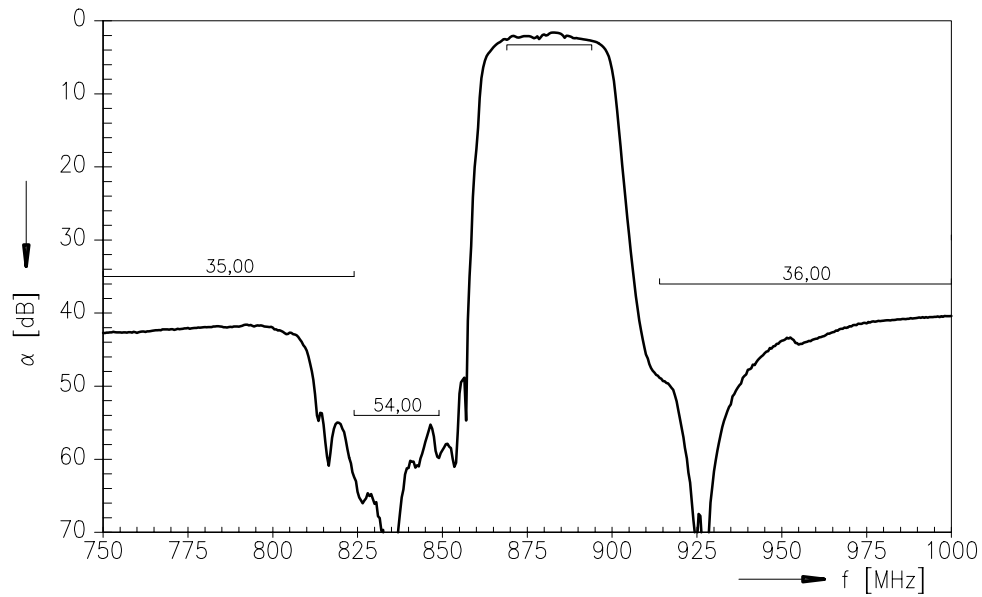


Frequency Response TX - ANT (wideband)

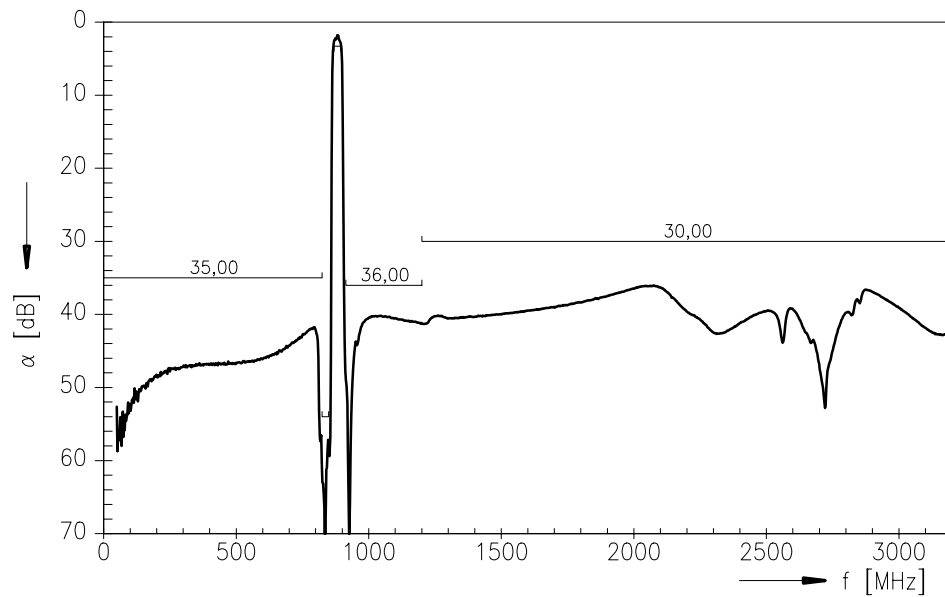




Frequency Response ANT - RX



Frequency Response ANT - RX (wideband)





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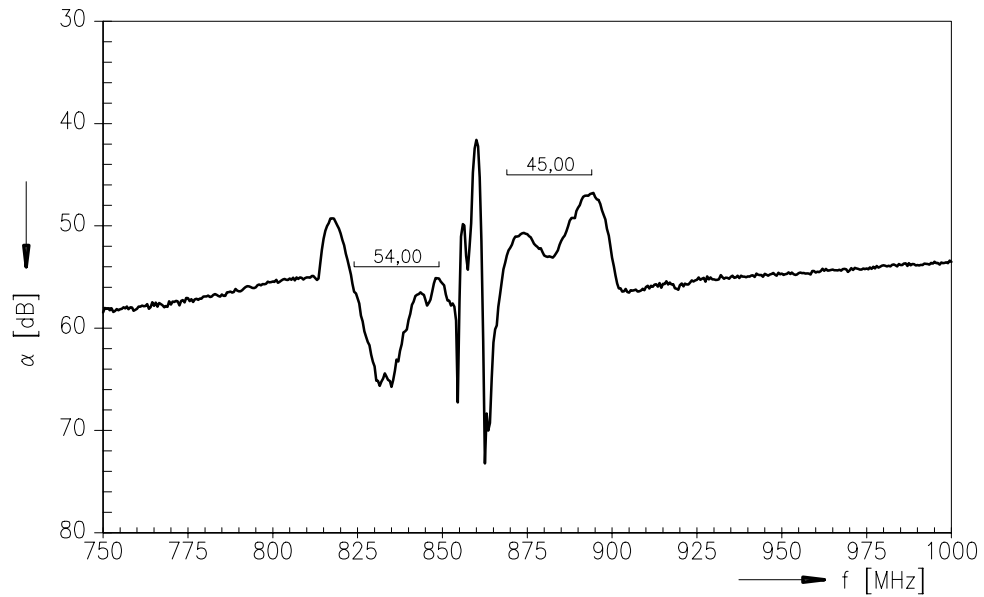
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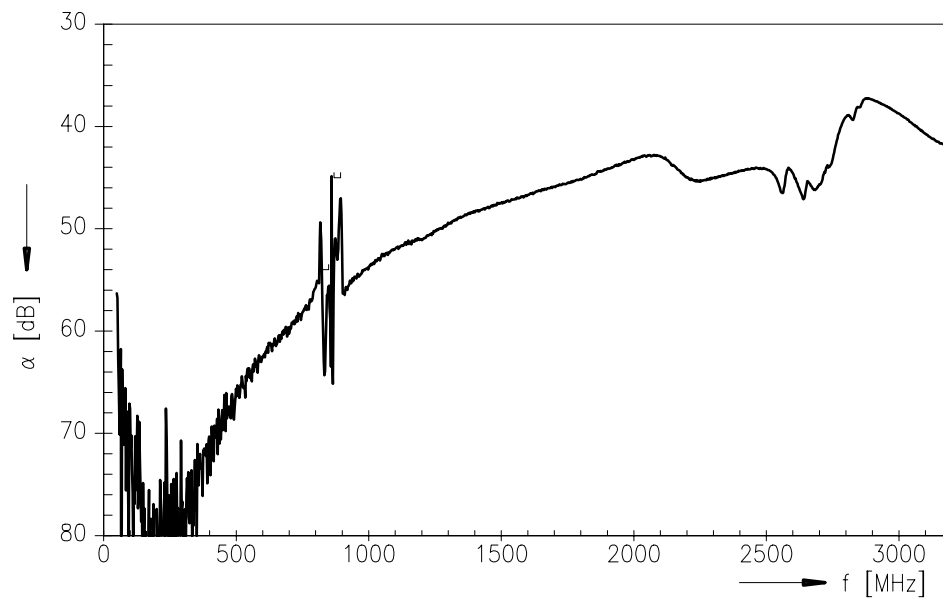
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Frequency Response TX - RX



Frequency Response TX - RX (wideband)





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