



SAW Components

Data Sheet B3830





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Low-Loss Filter

395,0 MHz

Data Sheet

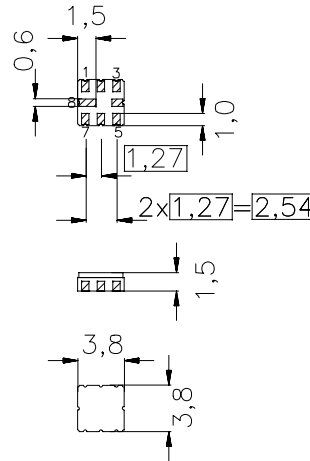
Ceramic package QCC8B

Features

- Low-loss filter (RX) for Trunked Radio
- Usable bandwidth 10 MHz
- No matching required for operation at 50 Ω
- Unbalanced to unbalanced or unbalanced to balanced operation
- Package for Surface Mounted Technology (SMT)
- Hermetically sealed ceramic package

Terminals

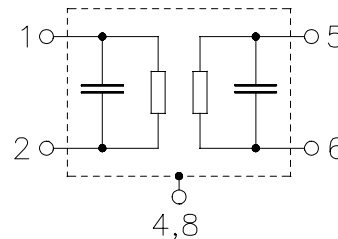
- Gold-plated



typ. Dimensions in mm, approx. weight 0,07 g

Pin configuration

- 5 Input
- 1 Output / Output balanced
- 2 Output ground / Output balanced
- 3, 6, 7 Ground
- 4, 8 Input ground / Case ground



| Type | Ordering code | Marking and Package according to | Packing according to |
|-------|-------------------|----------------------------------|----------------------|
| B3830 | B39401-B3830-Z810 | C61157-A7-A46 | F61074-V8037-Z000 |

Electrostatic Sensitive Device (ESD)

Maximum ratings

| | | | | |
|----------------------------|-----------|-----------|-----|----------|
| Operable temperature range | T_A | -30 / +70 | °C | |
| Storage temperature range | T_{stg} | -40 / +85 | °C | |
| DC voltage | V_{DC} | 0 | V | |
| Source power | P_s | 15 | dBm | passband |


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Operating temperature range: $T_A = +15 \dots +35 \text{ }^\circ\text{C}$
 Terminating source impedance: $Z_S = 50 \text{ } \Omega$ unbalanced or unbalanced to balanced
 Terminating load impedance: $Z_L = 50 \text{ } \Omega$ unbalanced or unbalanced to balanced

| | | min. | typ. | max. | |
|---|-----------------------|------|--------|-------|----------|
| Nominal frequency | f_N | — | 395,0 | — | MHz |
| Maximum insertion attenuation 390,0 MHz ... 400,0 MHz | α_{\max} | — | 1,8 | 3,5 | dB |
| Amplitude ripple (p-p) 390,0 MHz ... 400,0 MHz | $\Delta\alpha$ | — | 0,7 | 1,5 | dB |
| VSWR 390,0 MHz ... 400,0 MHz | | — | 1,65:1 | 2,0:1 | |
| Absolute attenuation | α_{abs} | | | | |
| 0,1 MHz ... 350,0 MHz | | 40 | 60 | — | dB |
| 350,0 MHz ... 383,0 MHz | | 25 | 30 | — | dB |
| 383,0 MHz ... 385,0 MHz | | 18 | 20 | — | dB |
| 410,0 MHz ... 440,0 MHz | | 10 | 20 | — | dB |
| 440,0 MHz ... 563,0 MHz | | 44 | 50 | — | dB |
| 563,0 MHz ... 1100,0 MHz | | 30 | 35 | — | dB |
| 1100,0 MHz ... 1526,0 MHz | | 30 | 37 | — | dB |
| 1526,0 MHz ... 2200,0 MHz | | 30 | 37 | — | dB |
| 2200,0 MHz ... 2500,0 MHz | | 15 | 20 | — | dB |
| 2500,0 MHz ... 4000,0 MHz | | 5 | 7 | — | dB |
| Symmetry in band | | | | | |
| $ S_{31} / S_{21} $ 390,0 ... 400,0 MHz | | -1,0 | 0 | 1,0 | dB |
| $\arg(S_{31}/S_{21})$ 390,0 ... 400,0 MHz | | 170 | 180 | 190 | $^\circ$ |
| Temperature coefficient of frequency | TC_f | — | -36 | — | ppm/K |


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Operating temperature range:

$T_A = -30 \dots +70 \text{ }^\circ\text{C}$

Terminating source impedance:

$Z_S = 50 \text{ } \Omega \text{ unbalanced or unbalanced to balanced}$

Terminating load impedance:

$Z_L = 50 \text{ } \Omega \text{ unbalanced or unbalanced to balanced}$

| | | min. | typ. | max. | |
|---|-----------------------|------|--------|-------|----------|
| Nominal frequency | f_N | — | 395,0 | — | MHz |
| Maximum insertion attenuation 390,0 MHz ... 400,0 MHz | α_{\max} | — | 1,9 | 4,0 | dB |
| Amplitude ripple (p-p) 390,0 MHz ... 400,0 MHz | $\Delta\alpha$ | — | 0,8 | 2,0 | dB |
| VSWR 390,0 MHz ... 400,0 MHz | | — | 1,65:1 | 2,0:1 | |
| Absolute attenuation | α_{abs} | | | | |
| 0,1 MHz ... 350,0 MHz | | 40 | 60 | — | dB |
| 350,0 MHz ... 383,0 MHz | | 25 | 30 | — | dB |
| 383,0 MHz ... 385,0 MHz | | 18 | 20 | — | dB |
| 410,0 MHz ... 440,0 MHz | | 10 | 20 | — | dB |
| 440,0 MHz ... 563,0 MHz | | 44 | 50 | — | dB |
| 563,0 MHz ... 1100,0 MHz | | 30 | 35 | — | dB |
| 1100,0 MHz ... 1526,0 MHz | | 30 | 37 | — | dB |
| 1526,0 MHz ... 2200,0 MHz | | 30 | 37 | — | dB |
| 2200,0 MHz ... 2500,0 MHz | | 15 | 20 | — | dB |
| 2500,0 MHz ... 4000,0 MHz | | 5 | 7 | — | dB |
| Symmetry in band | | | | | |
| $ S_{31} / S_{21} $ 390,0 ... 400,0 MHz | | -1,0 | 0 | 1,0 | dB |
| $\arg(S_{31}/S_{21})$ 390,0 ... 400,0 MHz | | 170 | 180 | 190 | $^\circ$ |
| Temperature coefficient of frequency | TC_f | — | -36 | — | ppm/K |



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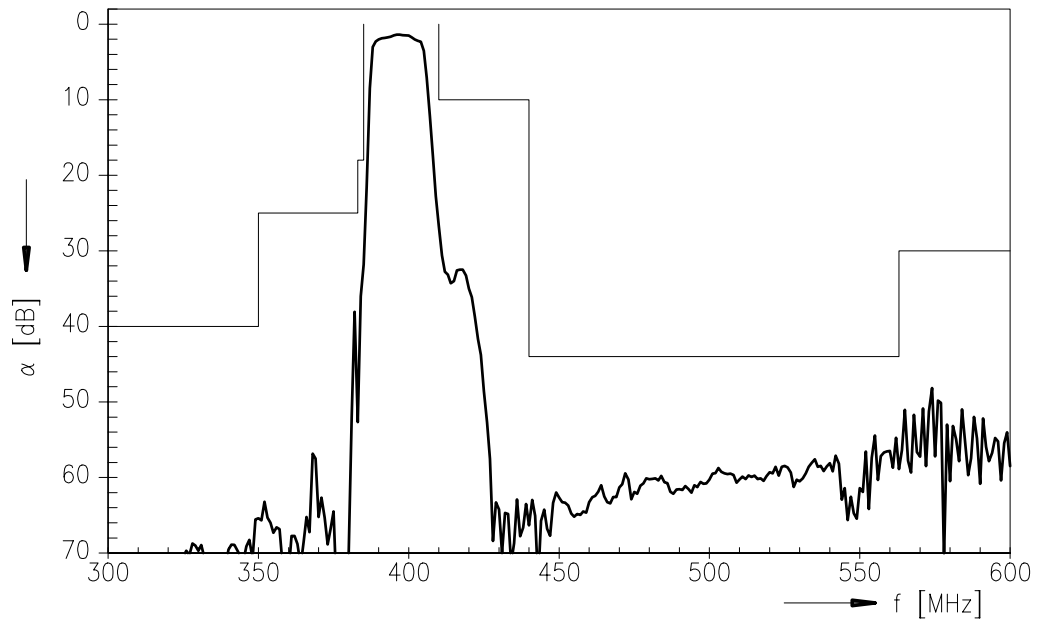
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Low-Loss Filter

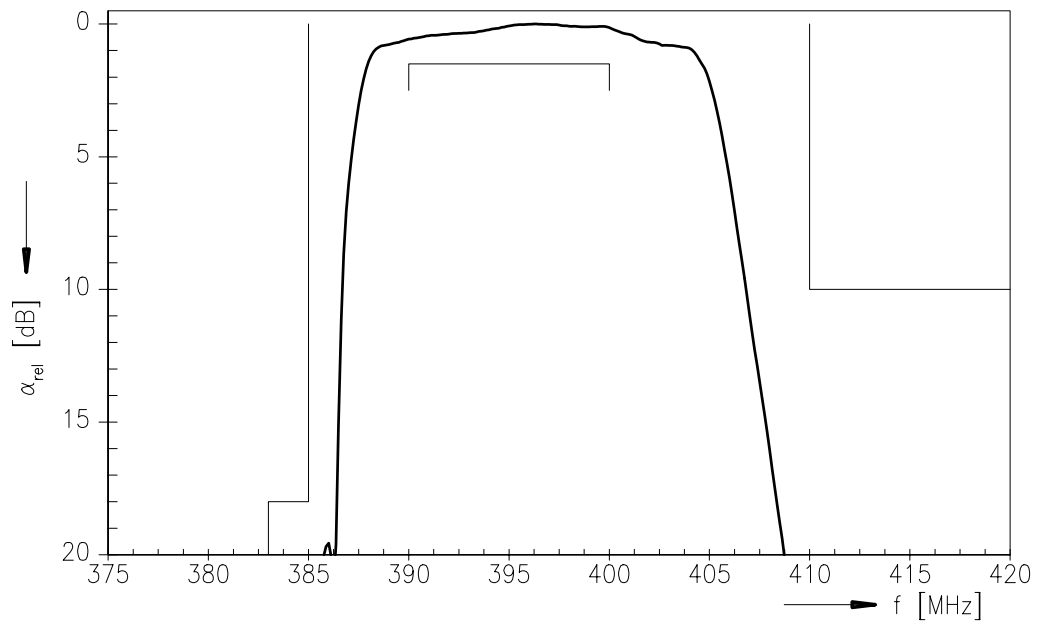
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Transfer function



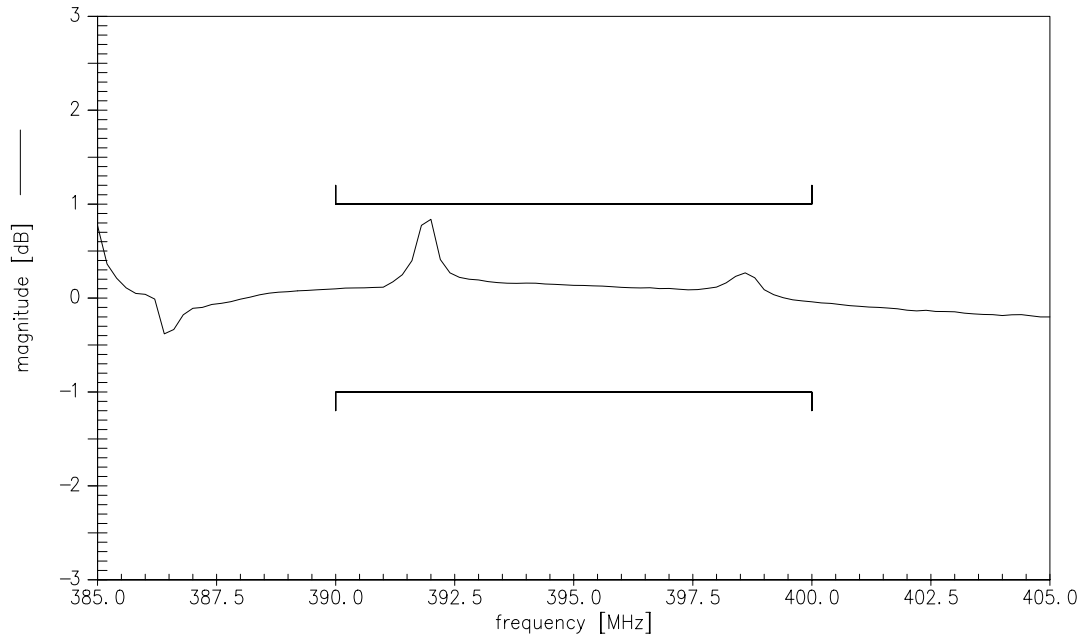
Normalized transfer function (pass band; +15 °C ... +35 °C)



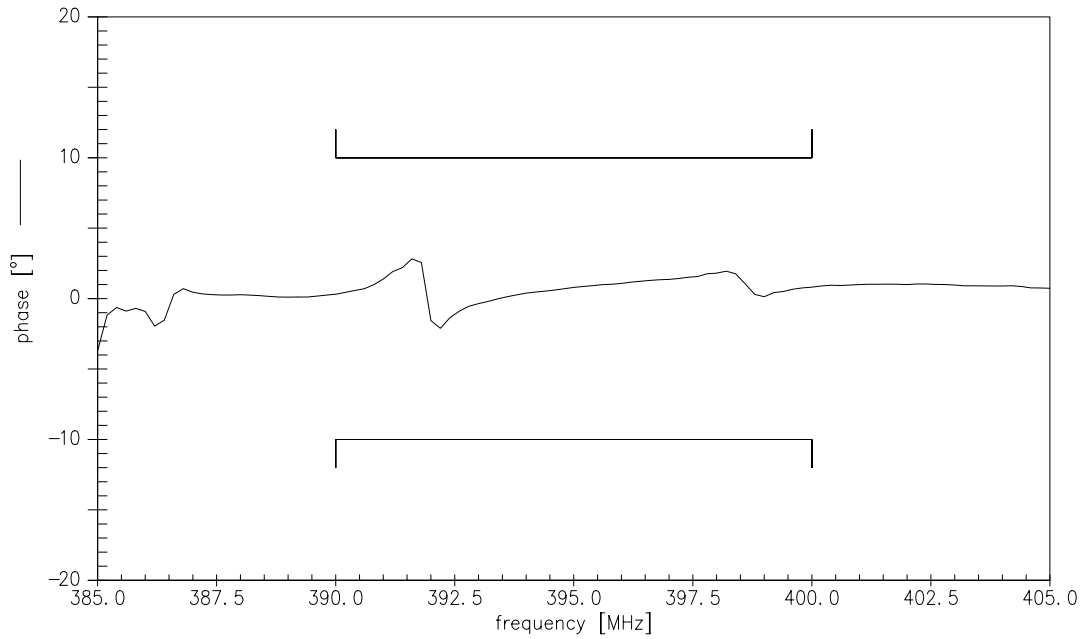


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Amplitude symmetry $|S_{31}|/|S_{21}|$



Phase symmetry $\arg(S_{31}/S_{21}) - 180^\circ$





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