



SAW Components

Data Sheet B3815





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B3815

Low-Loss Filter

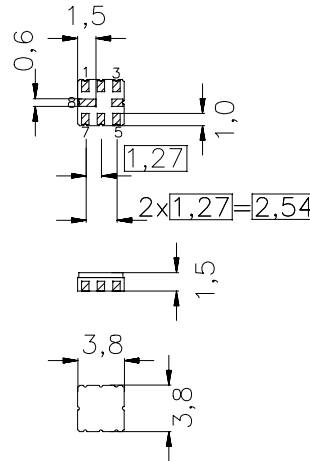
385,0 MHz

Data Sheet

Ceramic package QCC8B

Features

- Low-loss filter 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



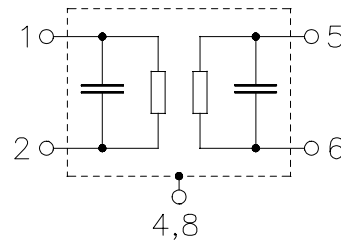
Terminals

- 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 |
|-------|-------------------|----------------------------------|----------------------|
| B3815 | B39391-B3815-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 | |
| ESD voltage | V_{ESD} | 100 | V | |
| Source power | P_s | 15 | dBm | source impedance 50 Ω |



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Characteristics

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 | — | 385,0 | — | MHz |
| Maximum insertion attenuation 380,0 MHz ... 390,0 MHz | α_{\max} | — | 2,4 | 3,5 | dB |
| Amplitude ripple (p-p) 380,0 MHz ... 390,0 MHz | $\Delta\alpha$ | — | 0,5 | 1,5 | dB |
| Return loss (Input and Output) 380,0 MHz ... 390,0 MHz | | 10,0 | 12,0 | — | dB |
| VSWR 380,0 MHz ... 390,0 MHz | | — | 1,7:1 | 2,0:1 | |
| Absolute attenuation | α_{abs} | | | | |
| 0,1 MHz ... 350,0 MHz | | 40 | 50 | — | dB |
| 350,0 MHz ... 370,0 MHz | | 13 | 35 | — | dB |
| 400,0 MHz ... 430,0 MHz | | 10 | 20 | — | dB |
| 430,0 MHz ... 760,0 MHz | | 44 | 54 | — | dB |
| 760,0 MHz ... 1496,0 MHz | | 30 | 35 | — | dB |
| 1496,0 MHz ... 2600,0 MHz | | 20 | 25 | — | dB |
| 2600,0 MHz ... 4000,0 MHz | | 5 | 6 | — | dB |
| Symmetry in band | | | | | |
| $ S_{31} / S_{21} $ 380,0 ... 390,0 MHz | | -0,5 | 0,5 | 1,5 | dB |
| $\arg(S_{31}/S_{21})$ 380,0 ... 390,0 MHz | | 170 | 180 | 190 | $^\circ$ |
| Temperature coefficient of frequency | TC_f | — | -70 | — | ppm/K |


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Characteristics

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 | — | 385,0 | — | MHz |
| Maximum insertion attenuation 380,0 MHz ... 390,0 MHz | α_{\max} | — | 2,6 | 4,0 | dB |
| Amplitude ripple (p-p) 380,0 MHz ... 390,0 MHz | $\Delta\alpha$ | — | 0,7 | 2,0 | dB |
| Return loss (Input and Output) 380,0 MHz ... 390,0 MHz | | 10,0 | 12,0 | — | dB |
| VSWR 380,0 MHz ... 390,0 MHz | | — | 1,8:1 | 2,0:1 | |
| Absolute attenuation | α_{abs} | | | | |
| 0,1 MHz ... 350,0 MHz | | 40 | 50 | — | dB |
| 350,0 MHz ... 370,0 MHz | | 13 | 25 | — | dB |
| 400,0 MHz ... 430,0 MHz | | 10 | 17 | — | dB |
| 430,0 MHz ... 760,0 MHz | | 44 | 52 | — | dB |
| 760,0 MHz ... 1496,0 MHz | | 30 | 35 | — | dB |
| 1496,0 MHz ... 2600,0 MHz | | 20 | 25 | — | dB |
| 2600,0 MHz ... 4000,0 MHz | | 5 | 6 | — | dB |
| Symmetry in band | | | | | |
| $ S_{31} / S_{21} $ 380,0 ... 390,0 MHz | | -0,5 | 0,5 | 1,5 | dB |
| $\arg(S_{31}/S_{21})$ 380,0 ... 390,0 MHz | | 170 | 180 | 190 | $^\circ$ |
| Temperature coefficient of frequency | TC_f | — | -70 | — | ppm/K |



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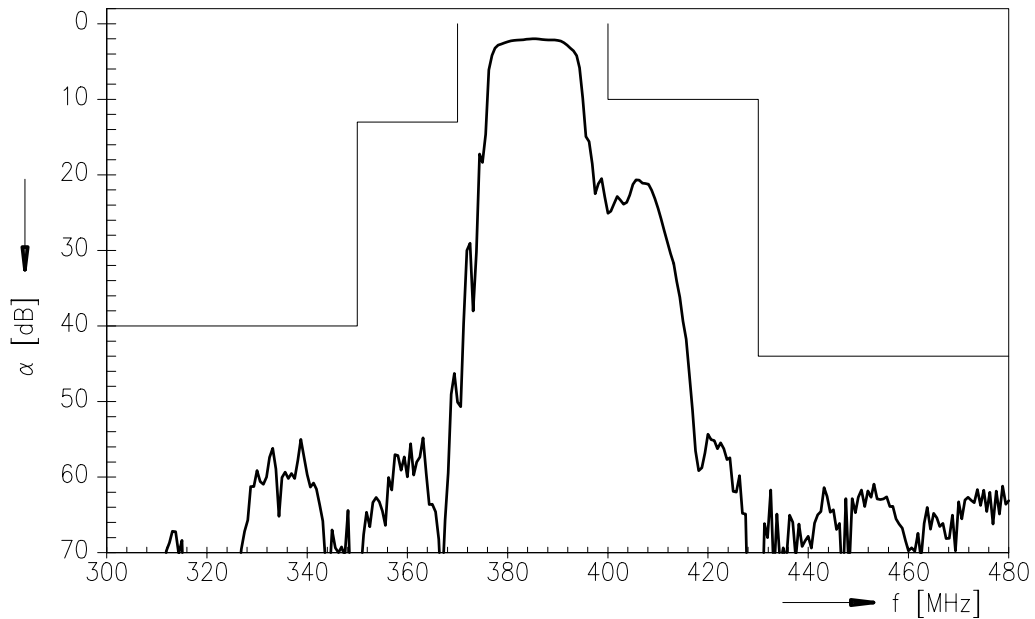
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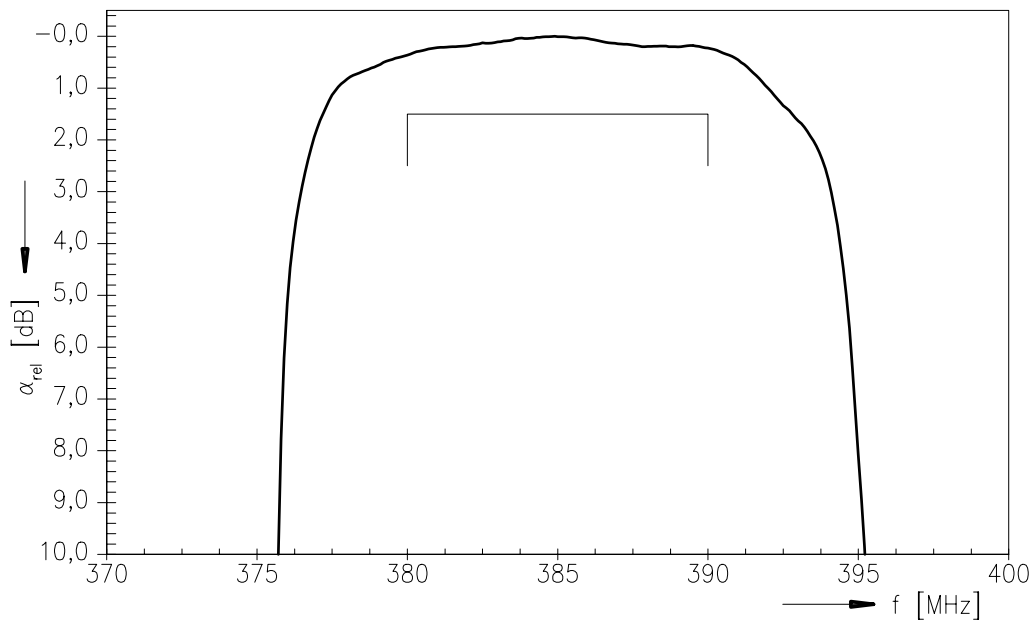
385,0 MHz

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Transfer function



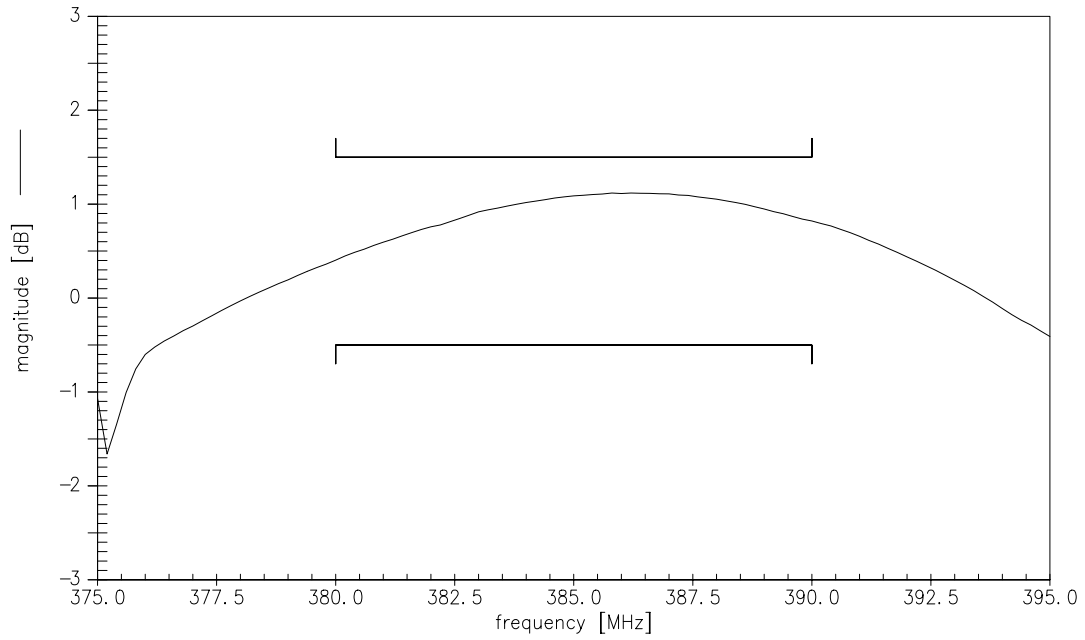
Normalized transfer function (pass band; +15 °C ... +35 °C)



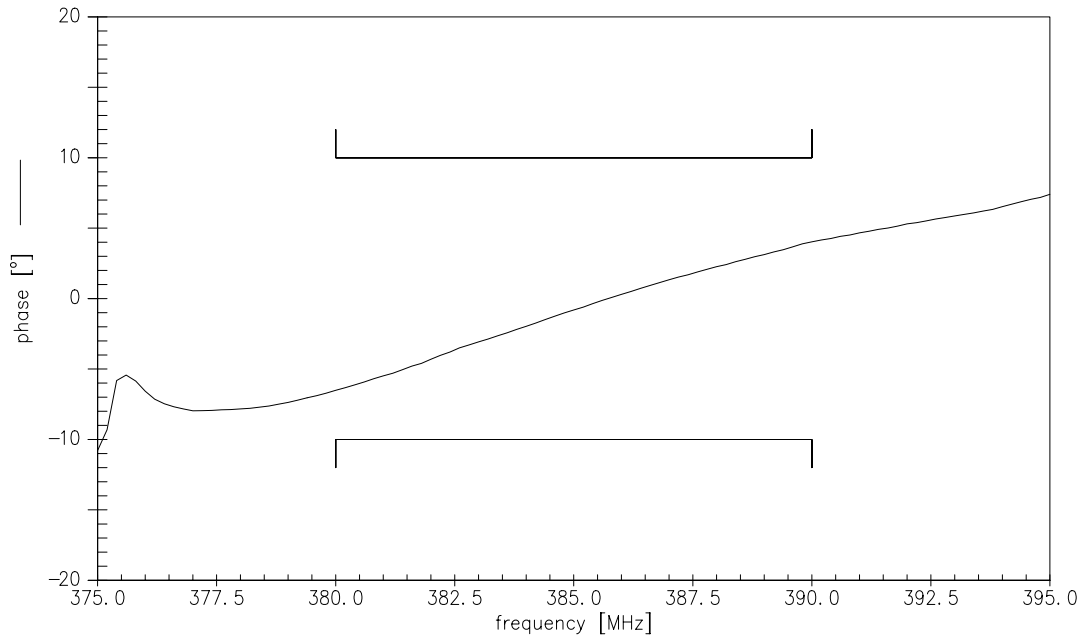


Data Sheet

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



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





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