



SAW Components

Data Sheet B3839





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B3839

Low-Loss Filter

333,0 MHz

Data Sheet

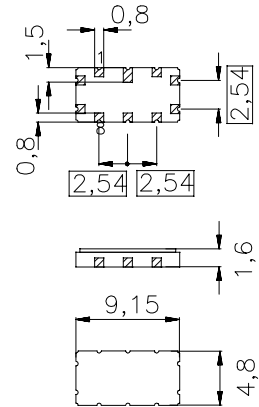
Ceramic package QCC10B

Features

- Low-loss IF-filter for WLL
- Usable bandwidth 0,8 MHz
- Temperature stable
- Ceramic SMD package

Terminals

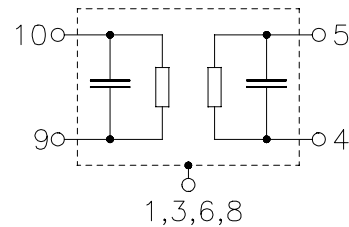
- Gold plated



Dimensions in mm, approx. weight 0,2 g

Pin configuration

- | | |
|------------|---------------|
| 10 | Input |
| 9 | Input ground |
| 5 | Output |
| 4 | Output ground |
| 2, 7 | Ground |
| 1, 3, 6, 8 | Case ground |



| Type | Ordering code | Marking and Package according to | Packing according to |
|-------|-------------------|----------------------------------|----------------------|
| B3839 | B39331-B3839-Z710 | C61157-A7-A49 | F61074-V8035-Z000 |

Electrostatic Sensitive Device (ESD)

Maximum ratings

| | | | |
|----------------------------|-----------|-----------|-----|
| Operable temperature range | T_A | -40 / +85 | °C |
| Storage temperature range | T_{stg} | -40 / +85 | °C |
| DC voltage | V_{DC} | 0 | V |
| Source power | P_s | 10 | dBm |


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Characteristics

Operating temperature range: $T_A = -40 \dots 85 \text{ }^\circ\text{C}$
 Terminating source impedance: $Z_S = 50 \text{ } \Omega$ and external matching network
 Terminating load impedance: $Z_L = 50 \text{ } \Omega$ and external matching network

| | | min. | typ. | max. | | |
|---|--|-----------------------|--------|--------|--------------------|-----|
| Center frequency | f_c | | | | | |
| | $\alpha_{\text{rel}} = 3,0 \text{ dB}$ | 332,88 | 333,0 | 333,12 | MHz | |
| Minimum insertion attenuation | α_{min} | — | 6,5 | 8 | dB | |
| Passband width | $\alpha_{\text{rel}} \leq 3,0 \text{ dB}$ | $B_{3,0\text{dB}}$ | 900 | 1010 | 1045 | kHz |
| | $\alpha_{\text{rel}} \leq 20,0 \text{ dB}$ | $B_{20\text{dB}}$ | — | 1840 | 2000 | kHz |
| | $\alpha_{\text{rel}} \leq 30,0 \text{ dB}$ | $B_{30\text{dB}}$ | — | 2080 | 2250 | kHz |
| | $\alpha_{\text{rel}} \leq 40,0 \text{ dB}$ | $B_{40\text{dB}}$ | — | 2250 | 2500 | kHz |
| | $\alpha_{\text{rel}} \leq 50,0 \text{ dB}$ | $B_{50\text{dB}}$ | — | 4500 | — | kHz |
| | Relative attenuation (relative to α_{min}) | α_{rel} | | | | |
| | $f_c - 50,0 \text{ MHz} \dots f_c - 3,0 \text{ MHz}$ | 48 | 50 | — | dB | |
| | $f_c + 3,0 \text{ MHz} \dots f_c + 20,0 \text{ MHz}$ | 47 | 50 | — | dB | |
| | $f_c + 20,0 \text{ MHz} \dots f_c + 40,0 \text{ MHz}$ | 44 | 48 | — | dB | |
| | $f_c + 40,0 \text{ MHz} \dots f_c + 50,0 \text{ MHz}$ | 48 | 50 | — | dB | |
| Amplitude ripple (p-p) | $\Delta\alpha$ | | | | | |
| | $f_c \pm 0,4 \text{ MHz}$ | — | 0,5 | 1,0 | dB | |
| Absolute group delay (at f_c) | τ | — | 0,9 | — | μs | |
| Group delay ripple (p-p) | $\Delta\tau$ | | | | | |
| | $f_c \pm 0,4 \text{ MHz}$ | — | 430 | 500 | ns | |
| Reflected Wave Signal Suppression | | | | | | |
| | 12 μs ... 20 μs after main pulse | 70 | 80 | — | dB | |
| Temperature coefficient of frequency ¹⁾ | TC_f | — | -0,036 | — | ppm/K ² | |
| Turnover temperature | T_0 | — | 15 | — | $^\circ\text{C}$ | |

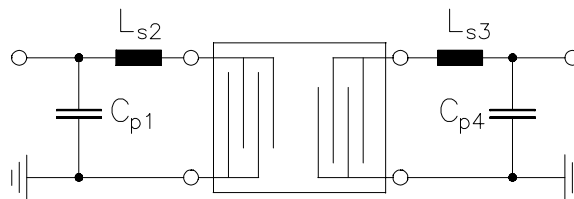
¹⁾ Temperature dependance of f_c : $f_c(T_A) = f_c(T_0)(1 + TC_f(T_A - T_0)^2)$



Data Sheet

Matching network

(Element values depend upon PCB layout)



$$C_{p1} = 18 \text{ pF}$$

$$L_{s2} = 22 \text{ nH}$$

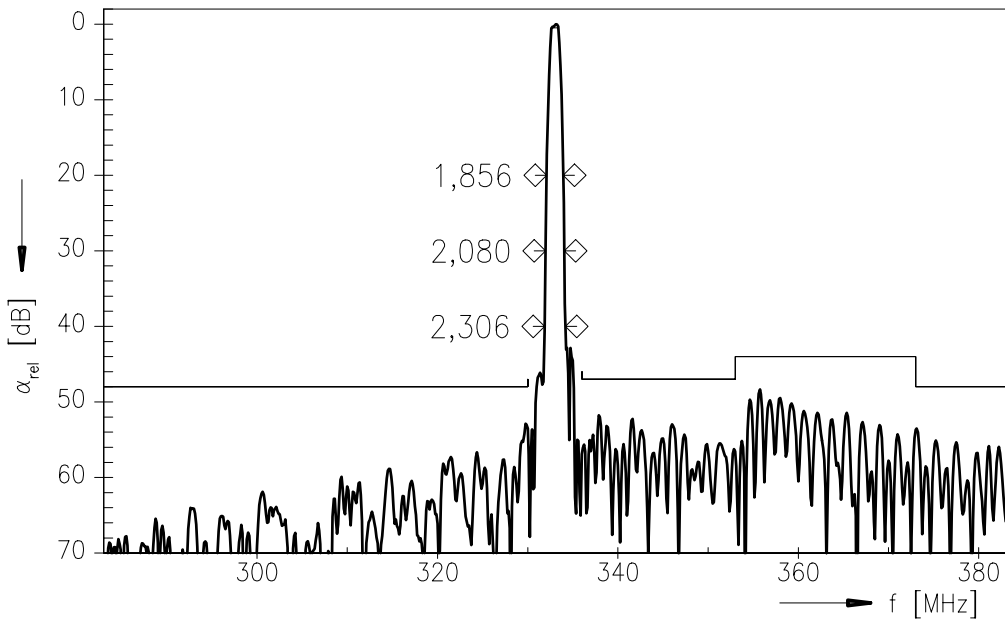
$$L_{s3} = 33 \text{ nH}$$

$$C_{p4} = 15 \text{ pF}$$

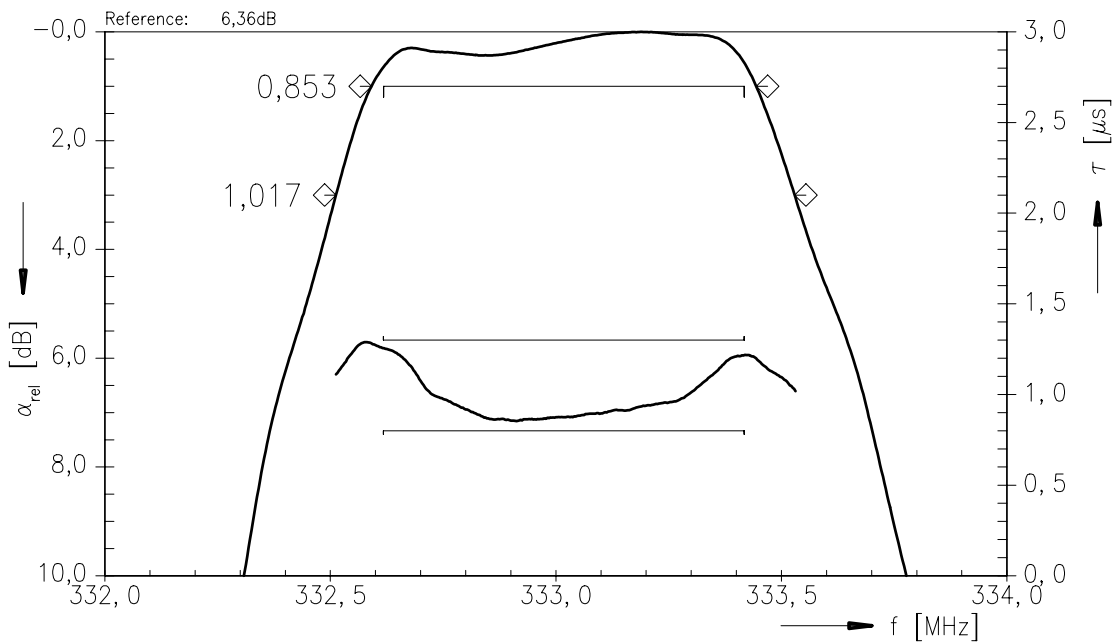


Data Sheet

Transfer function



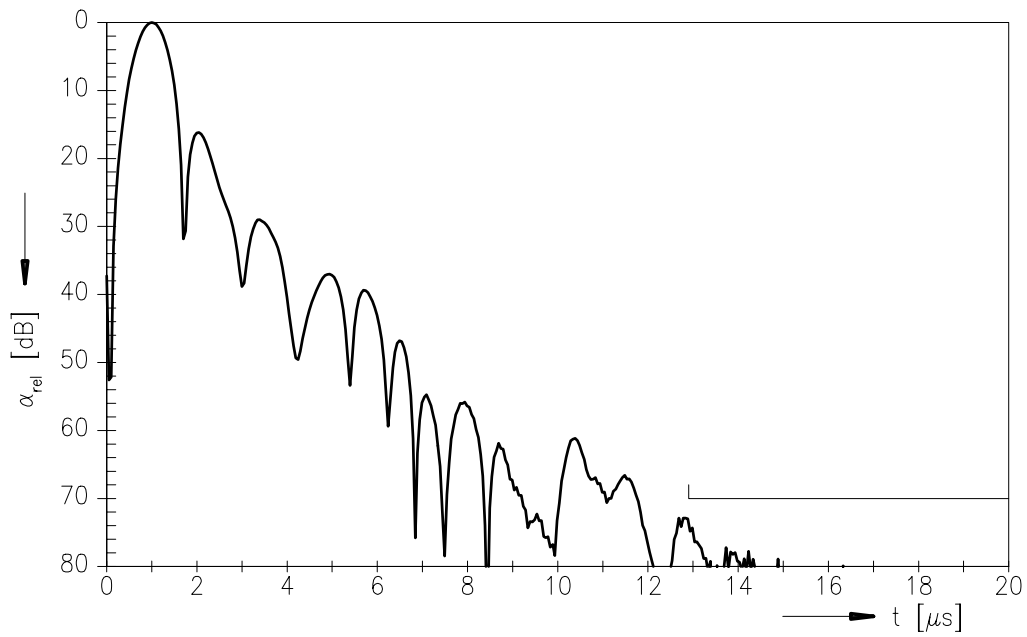
Transfer function (pass band)





Data Sheet

Impulse response





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