EPCOS

# *SAW Components*

*Preliminary Data Sheet B3844*

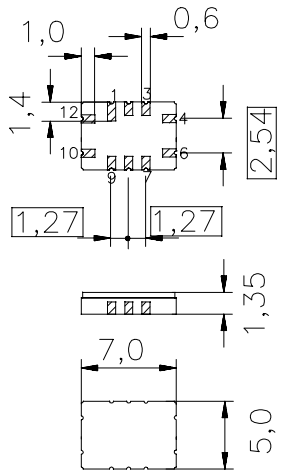
Ceramic package **QCC12B**

### Features

- Low-loss filter
- Temperature stable
- Package for Surface Mounted Technology (SMT)
- Hermetically sealed ceramic package

### Terminals

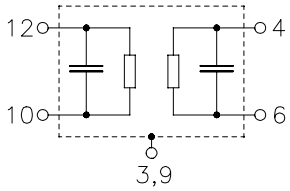
- Gold-plated




Dimensions in mm, approx.

### Pin configuration

| | |
|---|---|
| 10 | Input |
| 12 | Input ground or bal. input |
| 4 | Output |
| 6 | Output ground or bal. output |
| 1, 2, 3, 7, 8, 9 | To be grounded |




| Type | Ordering code | Marking and Package according to | Packing according to |
|---|---|---|---|
| B3844 | B39421B3844Z910 | C61157A0007A052 | F61074V8038Z000 |

**E**lectrostatic **S**ensitive **D**evice (**ESD**)

### Maximum ratings

| | | | | |
|---|---|---|---|---|
| Operable temperature range | $T$ | – 45/+ 85 | ˚C | |
| Storage temperature range | $T_{stg}$ | – 40/+ 85 | ˚C | |
| DC voltage | $V_{DC}$ | 0 | V | |
| Source power | $P_s$ | 10 | dBm | source impedance 75 Ω |

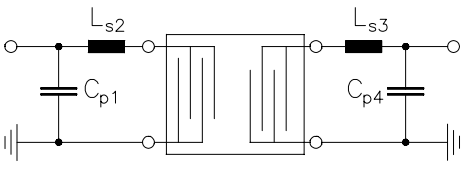
Preliminary Data Sheet

## Characteristics

Operating temperature: T = -40 ... +85 ˚C
Terminating source impedance: $Z_S$ = 75 Ω and matching network
Terminating load impedance: $Z_L$ = 75 Ω and matching network

| | | min. | typ. | max. | |
|---|---|---|---|---|---|
| **Nominal frequency** | $f_N$ | — | 423,25 | — | MHz |
| **Insertion attenuation at** $f_N$ (T=25 ˚C) | $\alpha_N$ | 4,5 | 5,7 | 7,5 | dB |
| **Variation of insertion att.** (rel. to $\alpha_N$) | $\alpha_{rel}$ | — | — | ±0,9 | dB |
| **Frequency response** | | | | | |
| 3 dB Lower frequency | $f_{L\ 3dB}$ | — | 422,27 | 422,75 | MHz |
| 3 dB Upper frequency | $f_{U\ 3dB}$ | 423,75 | 424,23 | — | MHz |
| 35 dB Lower frequency | $f_{L35dB}$ | 420,25 | 420,75 | — | MHz |
| 35 dB Upper frequency | $f_{U35dB}$ | — | 425,85 | 426,25 | MHz |
| **Amplitude ripple** (peak to adjacent valley) | | | | | |
| $f_N \pm 100$ kHz | | — | 0,3 | 0,5 | dB |
| **Relative attenuation** | $\alpha_{rel}$ | | | | |
| $f_N$ - 200,0 MHz ... $f_N$ - 10,0 MHz | | 40 | 55 | — | dB |
| $f_N$ - 10,0 MHz ... $f_N$ - 3,0 MHz | | 35 | 41 | — | dB |
| $f_N$ + 3,0 MHz ... $f_N$ + 10,0 MHz | | 35 | 43 | — | dB |
| $f_N$ + 10,0 MHz ... $f_N$ + 200,0 MHz | | 40 | 48 | — | dB |
| **Temperature coefficient of frequency** [1] | $TC_f$ | — | – 0,036 | — | ppm/K² |
| **Turnover temperature** | $T_0$ | — | 25 | — | ˚C |

**Matching circuit:**

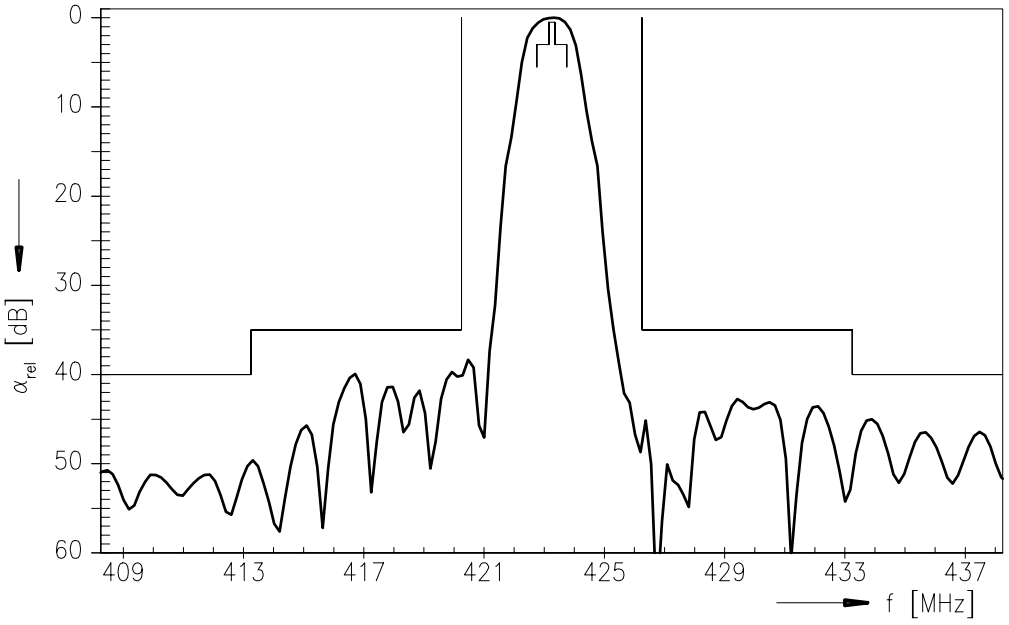



$C_{p1}$ = 12 pF [2]
$L_{s2}$ = 22 nH [2]
$L_{s3}$ = 18 nH [2]
$C_{p4}$ = 10 pF [2]

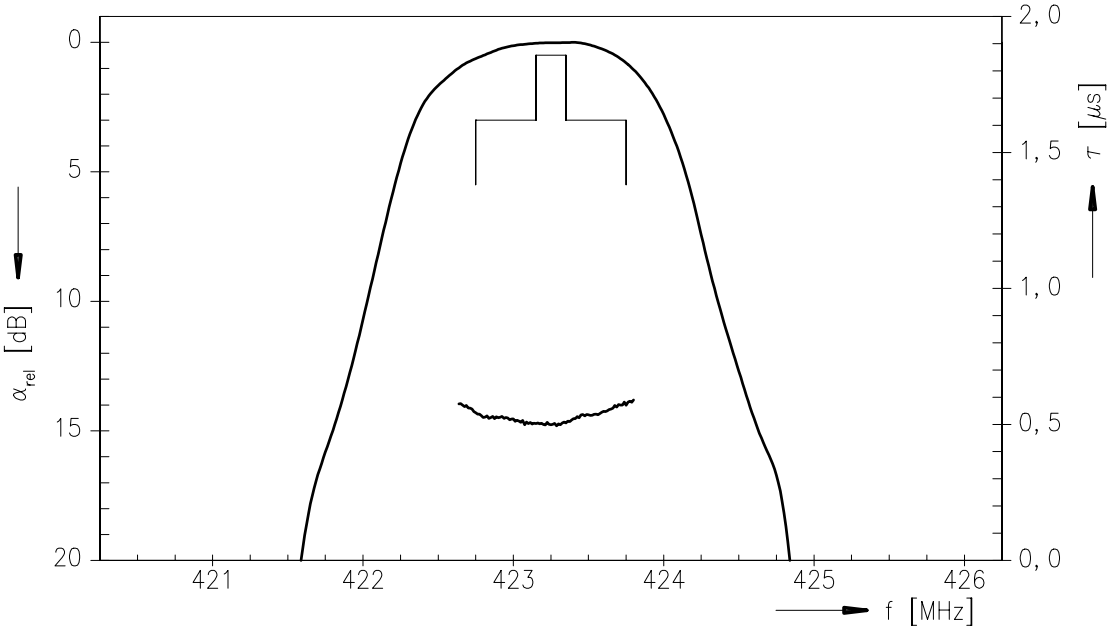
[1] Temperature dependance of $f_c$: $f_c(T_A) = f_c(T_0)(1 + TC_f(T_A - T_0)^2)$

[2] Element values depend on PCB layout

**Normalized frequency response**




**Normalized frequency response**



**Published by EPCOS AG**
**Surface Acoustic Wave Components Division, SAW MC IS,**
**P.O. Box 80 17 09, 81617 Munich, GERMANY**



Purchase orders are subject to the General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry recommended by the ZVEI (German Electrical and Electronic Manufacturers' Association), unless otherwise agreed.

This brochure replaces the previous edition.

For questions on technology, prices and delivery please contact the Sales Offices of EPCOS AG or the international Representatives.

Due to technical requirements components may contain dangerous substances. For information on the type in question please also contact one of our Sales Offices.