EPCOS

# *SAW Components*

*Data Sheet B4935*

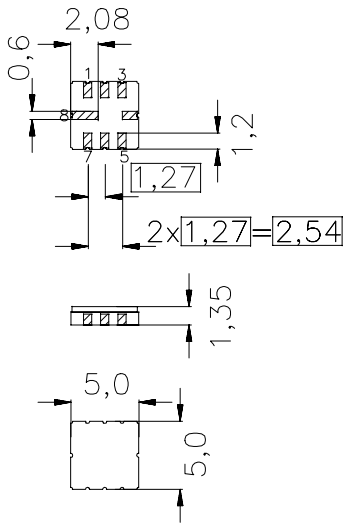
### Features

- IF filter for mobile telephone
- Channel selection in CDMA systems, Korean PCS
- Low insertion attenuation
- Extremely high rejection
- Single-ended/single-ended, balanced/single-ended and balanced/balanced operation possible
- Optimized for single-ended/balanced operation
- Very small size
- Package for **S**urface **M**ounted **T**echnology (**SMT**)

### Terminals

- Ni, gold plated

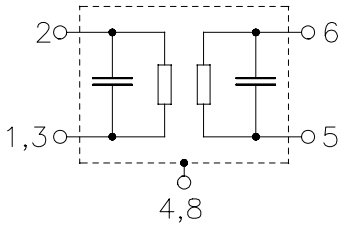
Ceramic package **QCC8C**




Dimensions in mm,approx. weight 0,07 g

### Pin configuration

| | |
|---|---|
| 2 | Input |
| 1+3 | Input ground or balanced input |
| 6 | Output |
| 5 | Output ground or balanced output |
| 7 | to be grounded |
| 4, 8 | Case ground |




Device is reciprocal, i.e. inputs can be used as outputs and vice versa

| Type | Ordering code | Marking and Package according to | Packing according to |
|---|---|---|---|
| B4935 | B39221-B4935-U310 | C61157-A7-A53 | F61074-V8070-Z000 |

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

### Maximum ratings

| | | | |
|---|---|---|---|
| Operable temperature range | $T$ | – 30/+ 85 | ˚C |
| Storage temperature range | $T_{stg}$ | – 40/+ 85 | ˚C |
| DC voltage | $V_{DC}$ | 13 | V |
| Source power | $P_s$ | 10 | dBm |

Data Sheet SMD

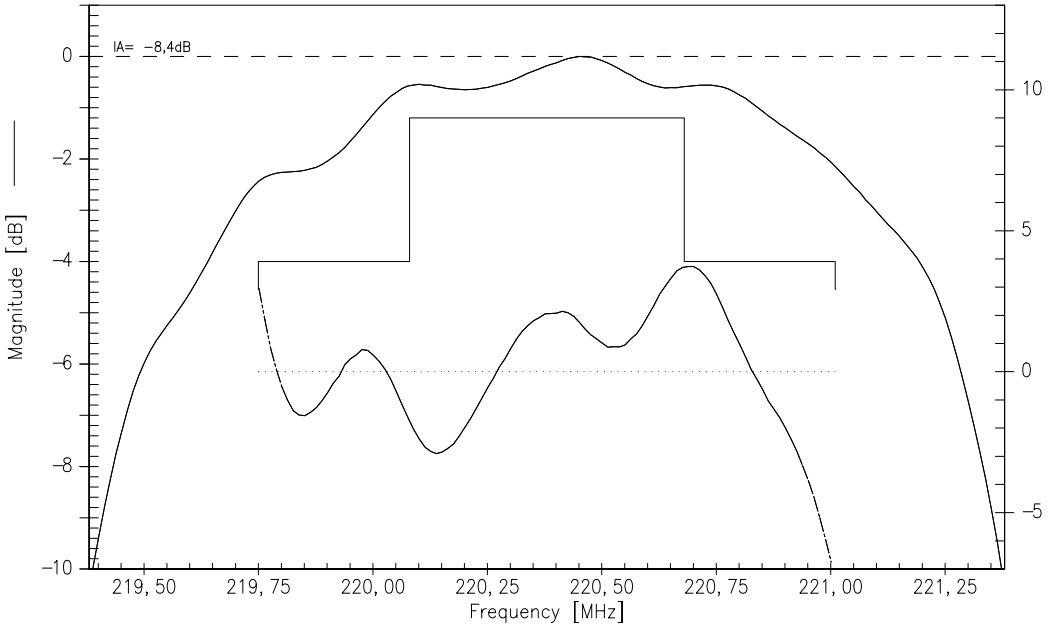
**Characteristics** single-ended/balanced

Operating temperature: $T$ = -30 ˚C to +80 ˚C
Terminating source impedance: $Z_S$ = 1050 Ω || 63 nH
Terminating load impedance: $Z_L$ = 610 Ω || 60 nH

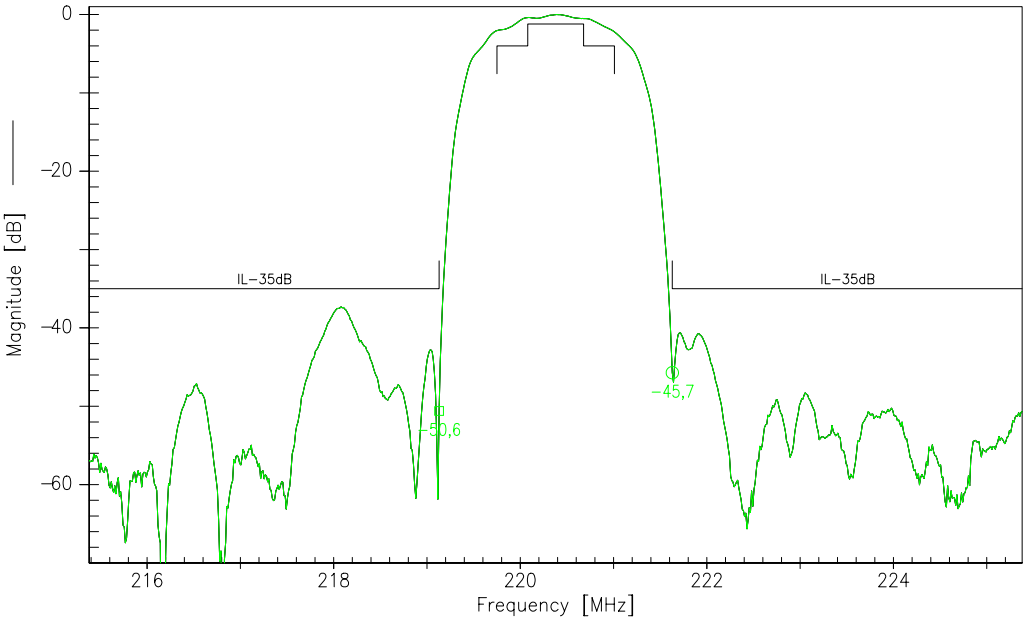
| | | min. | typ. | max. | |
|---|---|---|---|---|---|
| **Nominal frequency** | $f_N$ | — | 220,38 | — | MHz |
| **Insertion attenuation at $f_N$** (including loss in matching network without loss in baluns) | $\alpha_{fN}$ | — | 8,2 | 9,5 | dB |
| **Amplitude ripple** (p-p) | $\Delta\alpha$ | | | | |
| $f_N$ – 0,30 ... $f_N$ + 0,30 MHz | | — | 05 | 1,2 | dB |
| **Phase linearity** (rms deviation) | $\Delta\phi$ | | | | |
| $f_N$ – 0,63 ... $f_N$ + 0,63 MHz | | — | 2,3 | 3,2 | ° |
| **Relative attenuation** (relative to $\alpha_{fN}$) | $\alpha_{rel}$ | | | | |
| $f_N$ – 0,63 ... $f_N$ + 0,63 MHz | | — | 2,2 | 4,0 | dB |
| $f_N$ – 100,0 ... $f_N$ – 50,0 MHz | | 60,0 | 73,0 | — | dB |
| $f_N$ – 50,0 ... $f_N$ – 30,0 MHz | | 50,0 | 70,0 | — | dB |
| $f_N$ – 30,0 ... $f_N$ – 10,0 MHz | | 40,0 | 62,0 | — | dB |
| $f_N$ – 10,0 ... $f_N$ – 1,25 MHz | | 35,0 | 39,0 | — | dB |
| $f_N$ – 1,25 MHz | | | 45,0 | — | dB |
| $f_N$ + 1,25 MHz | | | 45,0 | — | dB |
| $f_N$ + 1,25 ... $f_N$ + 10,0 MHz | | 35,0 | 41,0 | — | dB |
| $f_N$ + 10,0 ... $f_N$ + 30,0 MHz | | 40,0 | 62,0 | — | dB |
| $f_N$ + 30,0 ... $f_N$ + 50,0 MHz | | 50,0 | 70,0 | — | dB |
| $f_N$ + 50,0 ... $f_N$+100,0 MHz | | 60,0 | 73,0 | — | dB |
| **Temperature coefficient of frequency** [1] | $TC_f$ | — | –0,036 | — | ppm/K² |
| **Frequency inversion point** | $T_0$ | — | 30 | — | ˚C |

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

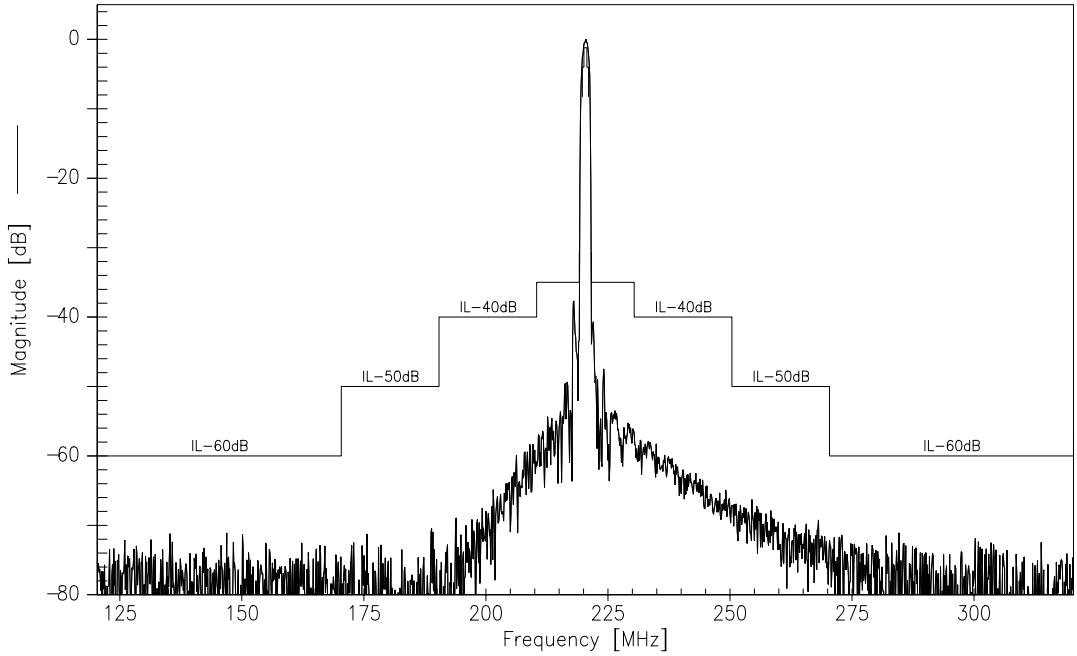
**Transfer function** (passband, single-ended/balanced):




**Transfer function** (narrowband, single-ended/balanced):



**Transfer function** (wideband, single-ended/balanced):



**Published by EPCOS AG**
**Surface Acoustic Wave Components Division, SAW MC WT**
**P.O. Box 80 17 09, D-81617 München**



The information contained in this brochure describes the type of component and shall not be considered as guaranteed characteristics. 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.