EPCOS

# *SAW Components*

*Data Sheet R 2709*

Data Sheet

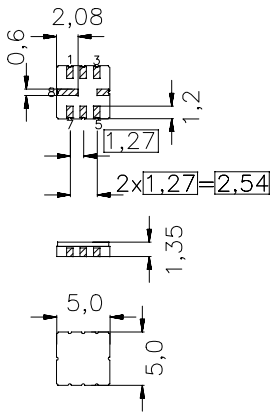
SMD Ceramic package **QCC8C**

## Features

- 2-port resonator
- nominal 180°-phase at resonance
- Provides reliable, fundamental mode, quartz frequency stabilization i.e. in transmitters or local oscillators

## Terminals

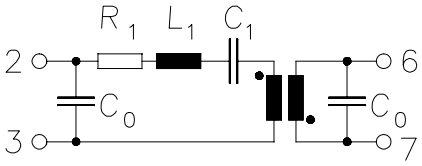
- Ni, gold plated




Dimensions in mm, approx. weight 0,1 g

## Pin configuration

| | |
|---|---|
| 2 | Input / Ouptput |
| 6 | Output / Input |
| 7 | Ground (Input / Output) |
| 3 | Ground (Output / Input) |
| 4,8 | Ground (case) |




| Type | Ordering code | Marking and Package according to | Packing according to |
|---|---|---|---|
| R2709 | B39871-R2709-U310 | C61157-A7-A56 | F61074-V8070-Z000 |

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

## Maximum ratings

| | | | | |
|---|---|---|---|---|
| Operable temperature range | $T_A$ | –45/+85 | °C | |
| Storage temperature range | $T_{stg}$ | –45/+85 | °C | |
| DC voltage | $V_{DC}$ | 0 | V | between any terminals |
| Source power | $P_s$ | 0 | dBm | |

Data Sheet

## Characteristics

Reference temperature: $T_A$ = 25 °C
Terminating Source impedance: $Z_S$ = 50 Ω
Terminating Load impedance: $Z_L$ = 50 Ω

| | | min. | typ. | max. | |
|---|---|---|---|---|---|
| **Center frequency** (center frequency between 3 dB points) | $f_c$ | 868,10 | 868,30 | 868,50 | MHz |
| **Minimum insertion attenuation** | $\alpha_{min}$ | — | 7,0 | 9,0 | dB |
| Phase at $f_c$ | φ | — | 130 | — | ° el. |
| Loaded quality factor | $Q_L$ | 3000 | 3600 | — | |
| Unloaded quality factor | $Q_U$ | 5500 | 6600 | — | |
| **Ageing of $f_c$** | | — | — | –10/+40 | ppm |
| **Equivalent circuit elements** | | | | | |
| Motional capacitance | $C_1$ | — | 0,279 | — | fF |
| Motional inductance | $L_1$ | — | 120,4 | — | µH |
| Motional resistance | $R_1$ | — | 100 | — | Ω |
| Input / Output capacitance | $C_0$ | — | 1,9 | — | pF |
| **Temperature coefficient of frequency** [1] | $TC_f$ | — | –0,03 | — | ppm/K² |
| Turnover temperature | $T_0$ | 15 | — | 35 | °C |

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

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