



# *SAW Components*

*Data Sheet R 852*

Data Sheet

An abstract graphic featuring the word "EPCOS" in large, glowing, 3D letters. The letters are white with a blue glow and are positioned diagonally across the frame. In the background, there is a faint, stylized globe with circuitry patterns overlaid on it, all set against a dark, textured background.



|                |            |
|----------------|------------|
| SAW Components | R 852      |
| Resonator      | 304,30 MHz |

# Data Sheet

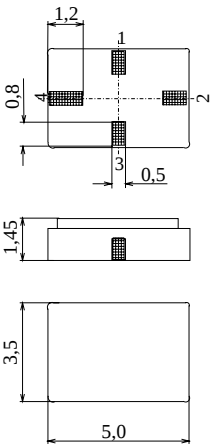
Ceramic package **QCC4A**

## Features

- 1-port resonator
- Provides reliable, fundamental mode, quartz frequency stabilization i.e. in transmitters or local oscillators

## Terminals

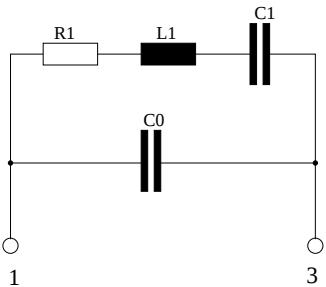
- Ni, gold plated



Dimensions in mm, approx. weight 0,1 g

## Pin configuration

- |     |                                  |
|-----|----------------------------------|
| 1   | Input                            |
| 3   | Output, grounded in 1-port conf. |
| 2,4 | Ground (case)                    |



| Type  | Ordering code     | Marking and Package according to | Packing according to |
|-------|-------------------|----------------------------------|----------------------|
| R 852 | B39301-R 852-H210 | C61157-A7-A86                    | F61074-V8120-Z000    |

Electrostatic Sensitive Device (ESD)

## Maximum ratings

|                            |           |          |     |                       |
|----------------------------|-----------|----------|-----|-----------------------|
| Operable temperature range | $T_A$     | -40/+125 | °C  | between any terminals |
| Storage temperature range  | $T_{stg}$ | -40/+125 | °C  |                       |
| DC voltage                 | $V_{DC}$  | 12       | V   |                       |
| Source power               | $P_S$     | 0        | dBm |                       |



## SAW Components

R 852

### Resonator

304,30 MHz

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#### Characteristics

Reference temperature:  $T_A = 25\text{ °C}$   
 Terminating source impedance:  $Z_S = 50\ \Omega$   
 Terminating load impedance:  $Z_L = 50\ \Omega$

|                                                           |                 | min.   | typ.   | max.    |                    |
|-----------------------------------------------------------|-----------------|--------|--------|---------|--------------------|
| <b>Center frequency</b> <sup>1)</sup>                     | $f_c$           | 304,25 | 304,30 | 304,35  | MHz                |
| <b>Minimum insertion attenuation</b>                      | $\alpha_{\min}$ | —      | 1,4    | 1,8     | dB                 |
| Unloaded quality factor                                   | $Q_U$           | 8000   | 13500  | —       |                    |
| <b>Ageing of <math>f_c</math></b>                         |                 | —      | —      | -10/+50 | ppm                |
| <b>Equivalent circuit elements</b>                        |                 |        |        |         |                    |
| Motional capacitance                                      | $C_1$           | —      | 2,17   | —       | fF                 |
| Motional inductance                                       | $L_1$           | —      | 126,06 | —       | $\mu\text{H}$      |
| Motional resistance                                       | $R_1$           | —      | 18     | 23      | $\Omega$           |
| Parallel capacitance <sup>2)</sup>                        | $C_0$           | —      | 3,0    | —       | pF                 |
| <b>Temperature coefficient of frequency</b> <sup>3)</sup> | $TC_f$          | —      | -0,032 | —       | ppm/K <sup>2</sup> |
| <b>Turnover temperature</b>                               | $T_0$           | 20     | —      | 40      | °C                 |

<sup>1)</sup> Center frequency is defined as maximum of the real part of the admittance

<sup>2)</sup> If used in two port configuration (pin 1-input, pin 3-output)  $C_0$  is reduced by approx. 0,3 pF.

<sup>3)</sup> 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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