



SAW Components

Data Sheet R820





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R820

Resonator

433,92 MHz

Data Sheet

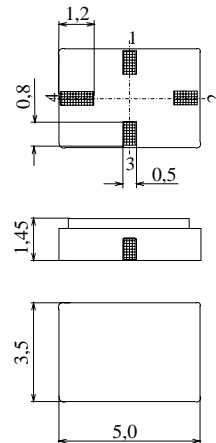
Ceramic package **QCC4A**

Features

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

Terminals

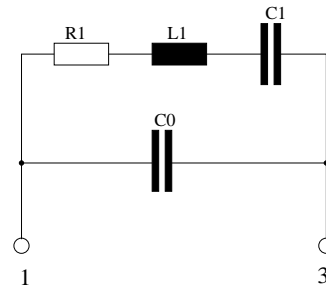
- Ni, gold plated



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 |
|------|-------------------|----------------------------------|----------------------|
| R820 | B39431-R 820-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 | |
| | | | | |


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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. | |
|-----------------------------------------------------------|-----------------|-------------|-------------|-------------|--------------------|
| Center frequency ¹⁾ | f_c | 433,845 | 433,920 | 433,995 | MHz |
| Minimum insertion attenuation | α_{\min} | — | 1,2 | 1,7 | dB |
| Unloaded quality factor | Q_U | 7500 | 11500 | — | |
| Ageing of f_c | | — | — | -50/+50 | ppm |
| Equivalent circuit elements | | | | | |
| Motional capacitance | C_1 | — | 2,13 | — | fF |
| Motional inductance | L_1 | — | 63,16 | — | μH |
| Motional resistance | R_1 | — | 14 | 22 | Ω |
| Parallel capacitance ²⁾ | C_0 | — | 2,5 | — | pF |
| Temperature coefficient of frequency ³⁾ | TC_f | — | -0,032 | — | ppm/K ² |
| Turnover temperature | T_0 | 10 | — | 40 | $^{\circ}\text{C}$ |

¹⁾ Center frequency is defined as maximum of the real part of the admittance

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

³⁾ 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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