EPCOS

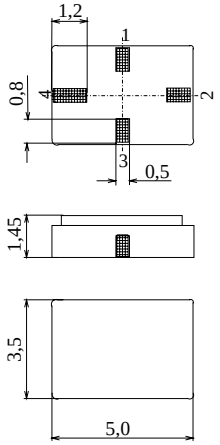
SAW Components

Data Sheet R820

Ceramic package **QCC4A**

Features

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



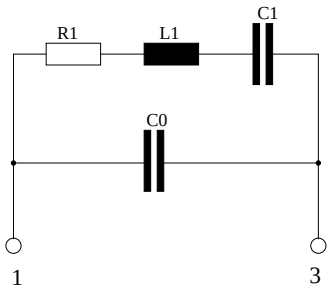
Terminals

- 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 **S**ensitive **D**evice (**ESD**)

Maximum ratings

Operable temperature range	T_A	–40/+125	˚C	
Storage temperature range	T_{stg}	–40/+125	˚C	
DC voltage	V_{DC}	12	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 [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	°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: $f_c(T_A) = f_c(T_0)(1 + TC_f(T_A - T_0)^2)$

Published by EPCOS AG
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