EPCOS

SAW Components

Data Sheet R770

Data Sheet

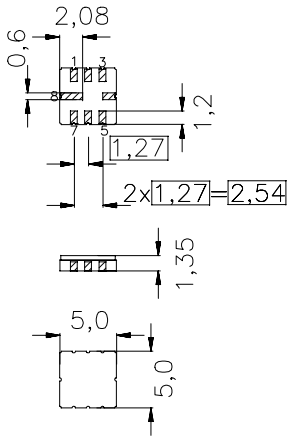
Ceramic package **QCC8C**

Features

- 1-port resonator (2 Resonators in 1 housing)
- Provides reliable, fundamental mode, quartz frequency stabilization i.e. in transmitters or local oscillators
- Protection layer: Protec

Terminals

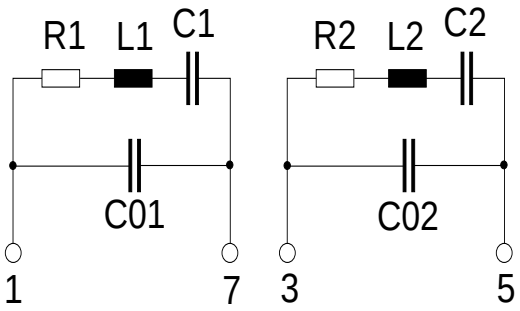
- Ni, gold plated



Dimensions in mm, approx. weight 0,1 g

Pin configuration

1	Input Reso 1
3	Input Reso 2
7	Output Reso 1
5	Output Reso 2
4,8	Ground (case)
2,6	float



Type	Ordering code	Marking and Package according to	Packing according to
R 770	B39431-R 770-U310	C61157-A7-A56	F61074-V8169-Z000

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

Maximum ratings

Operable temperature range	T_A	–45/+120	˚C	
Storage temperature range	T_{stg}	–45/+120	˚C	
DC voltage	V_{DC}	12	V	between any terminals
Source power	P_s	0	dBm	

Characteristics Resonator 1

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 Resonator 1[1]	f_c	433,76	433,81	433,86	MHz
Frequency offset Resonator 2 to Resonator 1	f_{offset}	200,0	250,0	300,0	KHz
Minimum insertion attenuation	α_{min}	—	1,3	1,7	dB
Unloaded quality factor	Q_U	7500	10100	—	
Ageing of f_c		—	—	± 50	ppm
Equivalent circuit elements					
Motional capacitance	C_1	—	2,12	—	fF
Motional inductance	L_1	—	63,43	—	µH
Motional resistance	R_1	—	17	23	Ω
Parallel capacitance[2]	C_{01}	—	2,4	—	pF
Temperature coefficient of frequency[3]	TC_f	—	– 0,03	—	ppm/K²
Turnover temperature	T_0	5	—	35	°C

1) Center frequency is defined as the maximum of the real part of the admittance.
2) If used in two port configuration (pin 1-input, pin 7-output) C_0 is reduced by approx. 0,3 pF.
3) Temperature dependence of f_c: $f_c(T_A) = f_c(T_0)(1 + TC_f(T_A - T_0)^2)$

Characteristics Resonator 2

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 Resonator 2[1)]	f_c	434,01	434,06	434,11	MHz
Frequency offset Resonator 2 to Resonator 1	f_{offset}	200,0	250,0	300,0	KHz
Minimum insertion attenuation	α_{min}	—	1,3	1,7	dB
Unloaded quality factor	Q_U	7500	10100	—	
Ageing of f_c		—	—	± 50	ppm
Equivalent circuit elements					
Motional capacitance	C_2	—	2,14	—	fF
Motional inductance	L_2	—	62,86	—	µH
Motional resistance	R_2	—	17	23	Ω
Parallel capacitance[2)]	C_{02}	—	2,4	—	pF
Temperature coefficient of frequency[3)]	TC_f	—	– 0,03	—	ppm/K²
Turnover temperature	T_0	5	—	35	°C

1) Center frequency is defined as the maximum of the real part of the admittance.
2) If used in two port configuration (pin 3-input, pin 5-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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This brochure replaces the previous edition.

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