



# SAW Components

Data Sheet R 770





**SAW Components**

**R 770**

**Resonator**

**433,81 / 434,06 MHz**

**Data Sheet**

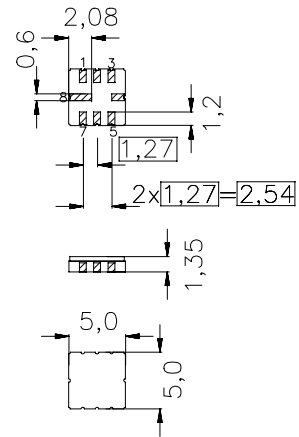
Ceramic package **QCC8C**

**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**

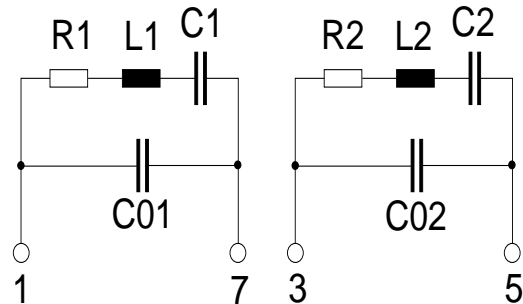
- Ni, gold plated



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 Sensitive Device (ESD)

**Maximum ratings**

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



Data Sheet

Characteristics Resonator 1

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 Resonator 1<sup>1)</sup></b>	$f_c$	433,76	433,81	433,86	MHz
<b>Frequency offset Resonator 2 to Resonator 1</b>	$f_{\text{offset}}$	200,0	250,0	300,0	KHz
<b>Minimum insertion attenuation</b>	$\alpha_{\text{min}}$	—	1,3	1,7	dB
Unloaded quality factor	$Q_U$	7500	10100	—	
<b>Ageing of <math>f_c</math></b>		—	—	$\pm 50$	ppm
<b>Equivalent circuit elements</b>					
Motional capacitance	$C_1$	—	2,12	—	fF
Motional inductance	$L_1$	—	63,43	—	$\mu\text{H}$
Motional resistance	$R_1$	—	17	23	$\Omega$
Parallel capacitance <sup>2)</sup>	$C_{01}$	—	2,4	—	pF
<b>Temperature coefficient of frequency<sup>3)</sup></b>	$TC_f$	—	- 0,03	—	ppm/K <sup>2</sup>
<b>Turnover temperature</b>	$T_0$	5	—	35	$^{\circ}\text{C}$

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  $f_c$ :  $f_c(T_A) = f_c(T_0)(1 + TC_f(T_A - T_0)^2)$



Data Sheet

Characteristics Resonator 2

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 Resonator 2<sup>1)</sup></b>	$f_c$	434,01	434,06	434,11	MHz
<b>Frequency offset Resonator 2 to Resonator 1</b>	$f_{\text{offset}}$	200,0	250,0	300,0	KHz
<b>Minimum insertion attenuation</b>	$\alpha_{\text{min}}$	—	1,3	1,7	dB
Unloaded quality factor	$Q_U$	7500	10100	—	
<b>Ageing of <math>f_c</math></b>		—	—	$\pm 50$	ppm
<b>Equivalent circuit elements</b>					
Motional capacitance	$C_2$	—	2,14	—	fF
Motional inductance	$L_2$	—	62,86	—	$\mu\text{H}$
Motional resistance	$R_2$	—	17	23	$\Omega$
Parallel capacitance <sup>2)</sup>	$C_{02}$	—	2,4	—	pF
<b>Temperature coefficient of frequency<sup>3)</sup></b>	$TC_f$	—	- 0,03	—	ppm/K <sup>2</sup>
<b>Turnover temperature</b>	$T_0$	5	—	35	$^{\circ}\text{C}$

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  $f_c$ :  $f_c(T_A) = f_c(T_0)(1 + TC_f(T_A - T_0)^2)$



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