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SAW Components

Data Sheet R 771

Data Sheet

A large, stylized graphic of the EPCOS logo is superimposed on a grayscale globe. The globe shows the outlines of continents and is set against a dark background. The EPCOS logo is rendered in a light, glowing white color, appearing to wrap around the globe.



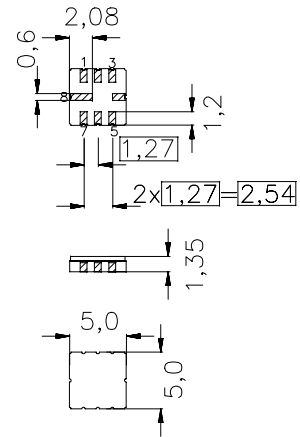
SAW Components	R 771
Resonator	314,875 / 315,125 MHz

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



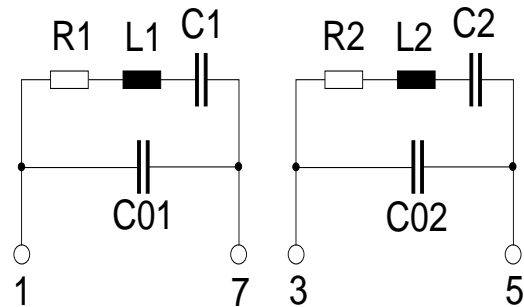
Dimensions in mm, approx. weight 0,1 g

Terminals

- Ni, gold plated

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 771	B39311-R 771-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	



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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.	
Center frequency Resonator 1¹⁾	f_c	314,825	314,875	314,925	MHz
Frequency offset Resonator 2 to Resonator 1	f_{offset}	200,0	250,0	300,0	KHz
Minimum insertion attenuation	α_{min}	—	1,3	1,6	dB
Unloaded quality factor	Q_U	9600	13200	—	
Ageing of f_c		—	—	± 50	ppm
Equivalent circuit elements					
Motional capacitance	C_1	—	2,39	—	fF
Motional inductance	L_1	—	106,94	—	μH
Motional resistance	R_1	—	16	22	Ω
Parallel capacitance ²⁾	C_{01}	—	3,1	—	pF
Temperature coefficient of frequency³⁾	TC_f	—	- 0,03	—	ppm/K ²
Turnover temperature	T_0	0	—	30	$^{\circ}\text{C}$

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



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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.	
Center frequency Resonator 2¹⁾	f_c	315,075	315,125	315,175	MHz
Frequency offset Resonator 2 to Resonator 1	f_{offset}	200,0	250,0	300,0	KHz
Minimum insertion attenuation	α_{min}	—	1,3	1,6	dB
Unloaded quality factor	Q_U	9600	13200	—	
Ageing of f_c		—	—	± 50	ppm
Equivalent circuit elements					
Motional capacitance	C_2	—	2,38	—	fF
Motional inductance	L_2	—	107,32	—	μH
Motional resistance	R_2	—	16	22	Ω
Parallel capacitance ²⁾	C_{02}	—	3,1	—	pF
Temperature coefficient of frequency³⁾	TC_f	—	- 0,03	—	ppm/K ²
Turnover temperature	T_0	0	—	30	$^{\circ}\text{C}$

- 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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