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# SAW Components

Data Sheet R 709

Data Sheet

A large, stylized graphic of the EPCOS logo is superimposed on a grayscale globe. The globe shows a map of the world with latitude and longitude lines. The EPCOS logo is rendered in a light, glowing white color, appearing to be part of the globe's surface.



<b>SAW Components</b>	<b>R 709</b>
<b>Resonator</b>	<b>403,55 MHz</b>

Data Sheet

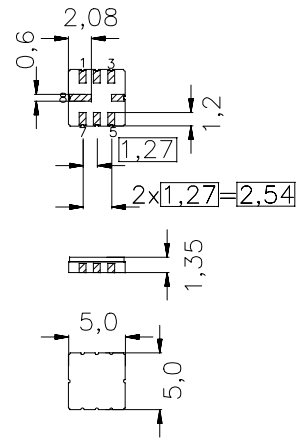
Features

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

Terminals

- Ni, gold plated

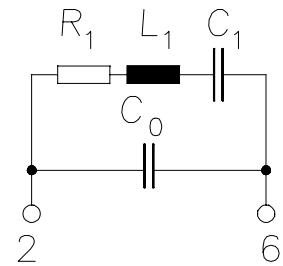
Ceramic package **QCC8C**



Dimensions in mm, approx. weight 0,1 g

Pin configuration

2	Input
6	Output, grounded in 1-port conf.
4,8	Ground (case)
1,3	float
5,7	float / ground



Type	Ordering code	Marking and Package according to	Packing according to
R 709	B39401-R 709-U310	C61157-A7-A56	F61074-V8070-Z000

Electrostatic Sensitive Device (ESD)

Maximum ratings

Operable temperature range	$T_A$	-45/+85	°C	between any terminals
Storage temperature range	$T_{stg}$	-45/+85	°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:  $Z_L = 50\ \Omega$

		<b>min.</b>	<b>typ.</b>	<b>max.</b>	
<b>Center frequency</b> <sup>1)</sup>	$f_c$	403,475	403,55	403,625	MHz
<b>Minimum insertion attenuation</b>	$\alpha_{\min}$	—	1,4	1,9	dB
Unloaded quality factor	$Q_U$	6000	11000	—	
<b>Ageing of <math>f_c</math></b>		—	—	$\pm 50$	ppm
<b>Equivalent circuit elements</b>					
Motional capacitance	$C_1$	—	2,2	—	fF
Motional inductance	$L_1$	—	70,70	—	$\mu\text{H}$
Motional resistance	$R_1$	—	18	30	$\Omega$
Parallel capacitance <sup>2)</sup>	$C_0$	—	3,7	—	pF
<b>Temperature coefficient of frequency</b> <sup>3)</sup>	$TC_f$	—	-0,03	—	ppm/K <sup>2</sup>
<b>Turnover temperature</b>	$T_0$	5	—	45	$^{\circ}\text{C}$

<sup>1)</sup> Center frequency is defined as maximum of the real part of the admittance

<sup>2)</sup> If used in two port configuration (pin 2-input, pin 6-output)  $C_0$  is reduced by approx. 0,3 pF.

<sup>3)</sup> 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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