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# SAW Components

Data Sheet R 850

Data Sheet

A large, stylized graphic of a globe with the word "EPCOS" written across it in a large, white, sans-serif font. The globe is rendered in shades of gray and white, with a grid of latitude and longitude lines. The text "EPCOS" is positioned diagonally across the lower half of the globe.



<b>SAW Components</b>	<b>R 850</b>
<b>Resonator</b>	<b>433,94 MHz</b>

Data Sheet

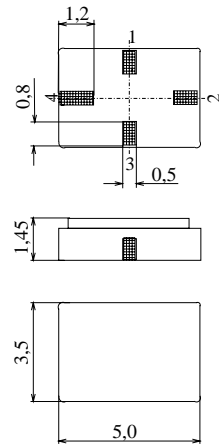
Ceramic package **QCC4A**

**Features**

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

**Terminals**

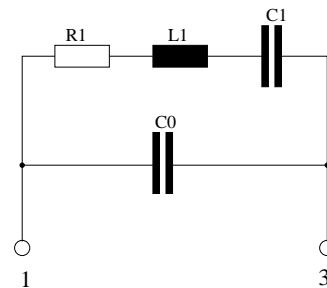
- Ni, gold plated



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
R 850	B39431-R 850-H210	C61157-A7-A86	F61074-V8120-Z000

Electrostatic Sensitive Device (ESD)

**Maximum ratings**

Operable temperature range	$T_A$	-40/+125	°C	between any terminals
Storage temperature range	$T_{stg}$	-40/+125	°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:  $Z_L = 50\ \Omega$

		min.	typ.	max.	
<b>Center frequency</b> <sup>1)</sup>	$f_c$	433,89	433,94	433,99	MHz
<b>Minimum insertion attenuation</b>	$\alpha_{\min}$	—	1,2	1,5	dB
Unloaded quality factor	$Q_U$	8000	13800	—	
<b>Ageing of <math>f_c</math></b>		—	—	-10/+50	ppm
<b>Equivalent circuit elements</b>					
Motional capacitance	$C_1$	—	2,066	—	fF
Motional inductance	$L_1$	—	65,11	—	$\mu\text{H}$
Motional resistance	$R_1$	—	13	18	$\Omega$
Parallel capacitance <sup>2)</sup>	$C_0$	—	2,7	—	pF
<b>Temperature coefficient of frequency</b> <sup>3)</sup>	$TC_f$	—	-0,032	—	ppm/K <sup>2</sup>
<b>Turnover temperature</b>	$T_0$	15	25	35	$^{\circ}\text{C}$

<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 1-input, pin 3-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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