



# SAW Components

Data Sheet R 903





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**R 903**

**Resonator**

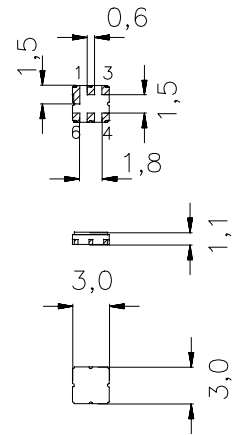
**315,50 MHz**

**Data Sheet**

Ceramic package **DCC6C**

**Features**

- 1-port resonator
- Provides reliable, fundamental mode, quartz frequency stabilization i.e. in transmitters or local oscillators
- Hermetically sealed ceramic package
- Protection layer: Elpas
- AEC-Q200 qualified component family
- Compliant to EU RoHs Directive (2002/95/EC)
- Lead free soldering compatible with J - STD20C



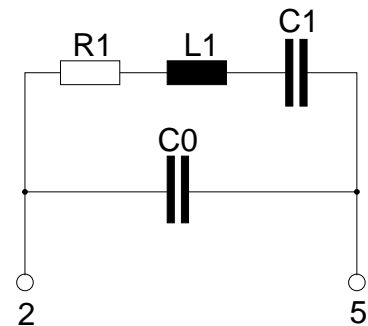
**Terminals**

- Ni, gold plated

Dimensions in mm, approx. weight 0,037 g

**Pin configuration**

- 2 Input
- 5 Output, grounded in 1-port conf.
- 1,3,4,6 Ground (case)



Type	Ordering code	Marking and Package according to	Packing according to
R 903	B39321-R 903-U410	C61157-A7-A67	F61074-V8168-Z000

Electrostatic Sensitive Device (ESD)

**Maximum ratings**

Operable temperature range	$T_A$	-40/+95	°C	between any terminals
Storage temperature range	$T_{stg}$	-40/+95	°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>	$f_c$	315,425	315,50	315,575	MHz
<b>Minimum insertion attenuation</b>	$\alpha_{\min}$	—	1,5	1,9	dB
Unloaded quality factor	$Q_U$	7600	10200	—	
<b>Ageing of <math>f_c</math></b>		—	—	-50/+50	ppm
<b>Equivalent circuit elements</b>					
Motional capacitance	$C_1$	—	2,346	—	fF
Motional inductance	$L_1$	—	108,5	—	$\mu\text{H}$
Motional resistance	$R_1$	—	21	28	$\Omega$
Parallel capacitance <sup>2)</sup>	$C_0$	—	3,4	—	pF
<b>Temperature coefficient of frequency</b> <sup>3)</sup>	$TC_f$	—	-0,032	—	ppm/K <sup>2</sup>
<b>Turnover temperature</b>	$T_0$	5	—	35	$^{\circ}\text{C}$

1) Center frequency is defined as maximum of the real part of the admittance

2) If used in two port configuration (pin 2-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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