

SAW Components

SAW resonator

Short range devices

Series/type:	R1900
Ordering code:	B39431R1900A310
Date:	February 11, 2011
Version:	2.0

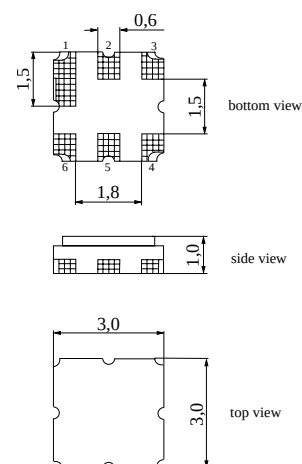
Data sheet

Application

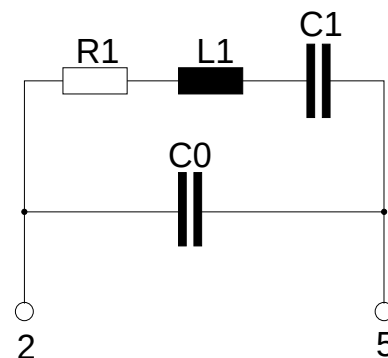
- 1-port resonator
- Provides reliable, fundamental mode, quartz frequency stabilization i.e. in transmitters or local oscillators


Features

- Package size 3.0 x 3.0 x 1.0 mm³
- Package code DCC6G
- RoHS compatible
- Approximate weight 0.037 g
- Package for **Surface Mount Technology (SMT)**
- Ni, gold-plated terminals
- Lead free soldering compatible with J - STD20C
- Passivation layer Elpas
- AEC-Q200 qualified component family
- **Electrostatic Sensitive Device (ESD)**


Pin configuration

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



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R1900
SAW resonator
433.92 MHz
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Characteristics

Reference temperature: $T_A = 25\text{ }^{\circ}\text{C}$
Terminating source impedance: $Z_S = 50\text{ }\Omega$
Terminating load impedance: $Z_L = 50\text{ }\Omega$

		min.	typ.	max.	
Center frequency¹⁾	f_C	433.87	433.92	433.97	MHz
Minimum insertion attenuation	$\alpha_{\min}$	—	1.4	1.9	dB
Unloaded quality factor	Q_U	7000	10000	—	
Ageing of f_C		—	—	-50/+50	ppm
Equivalent circuit elements					
Motional capacitance	C_1	—	1.906	—	fF
Motional inductance	L_1	—	70.57	—	μH
Motional resistance	R_1	—	18	26	Ω
Parallel capacitance ²⁾	C_0	—	2.9	—	pF
Temperature coefficient of frequency³⁾	TC_f	—	-0.032	—	ppm/ K^2
Turnover temperature	T_0	10	—	30	$^{\circ}\text{C}$

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 : $f_C(T_A) = f_C(T_0) (1 + \text{TC}_f (T_A - T_0)^2)$

Maximum ratings

Operable temperature range	T	-45/+125	$^{\circ}\text{C}$	
Storage temperature range	T_{stg}	-45/+125	$^{\circ}\text{C}$	
DC voltage	V_{DC}	12	V	
Source power	P_S	0	dBm	

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References

Type	R1900
Ordering code	B39431R1900A310
Marking and package	C61157-A7-A172
Packaging	F61074-V8228-Z000
Date codes	L_1126
Soldering profile	S_6001
RoHS compatible	defined as compatible with the following documents: "DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment. 2005/618/EC from April 18th, 2005, amending Directive 2002/95/EC of the European Parliament and of the Council for the purposes of establishing the maximum concentration values for certain hazardous substances in electrical and electronic equipment."
Coils	See Inductor pdf-catalog http://www.tdk.co.jp/tefe02/coil.htm#aname1 and Data Library for circuit simulation http://www.tdk.co.jp/etvcl/index.htm

For further information please contact your local EPCOS sales office or visit our webpage at www.epcos.com .

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