



SAW Components

SAW resonator

Short range devices

Series/type:	R820
Ordering code:	B39431R 820H210
Date:	May 07, 2012
Version:	2.0

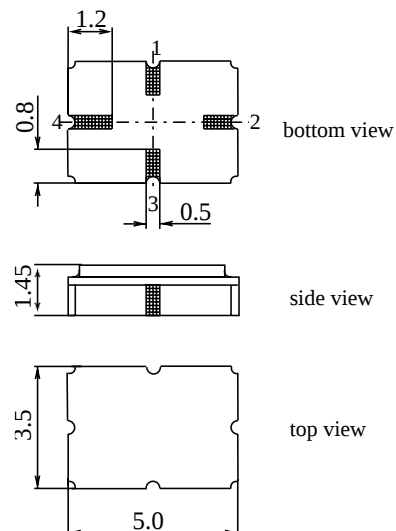
Data sheet

Application

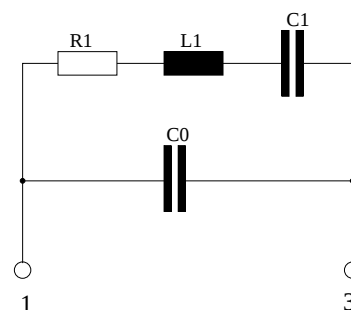
- 1-port resonator
- Provides reliable, fundamental mode, quartz frequency stabilization i.e. in transmitters or local oscillators


Features

- Package size 5.0 x 3.5 x 1.45 mm³
- Package code QCC4A
- RoHS compatible
- Approximate weight 0.1 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

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



SAW Components	R820
SAW resonator	433.92 MHz

Data sheet



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.	
Center frequency¹⁾	f_C	433.845	433.920	433.995	MHz
Minimum insertion attenuation	$\alpha_{\min}$	—	1.2	1.7	dB
Unloaded quality factor	Q_U	7500	11500	—	
Ageing of f_C		—	—	−50/+50	ppm
Equivalent circuit elements					
Motional capacitance	C_1	—	2.13	—	fF
Motional inductance	L_1	—	63.16	—	μH
Motional resistance	R_1	—	14	22	Ω
Parallel capacitance ²⁾	C_0	—	2.5	—	pF
Temperature coefficient of frequency³⁾	TC_f	—	−0.032	—	ppm/K ²
Turnover temperature	T_0	10	—	40	°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 : $f_C(T_A) = f_C(T_0) (1 + TC_f (T_A - T_0)^2)$

Maximum ratings

Operable temperature range	T	−45/+125	°C	
Storage temperature range	T_{stg}	−45/+125	°C	
DC voltage	V_{DC}	12	V	
Source power	P_S	0	dBm	

SAW Components	R820
SAW resonator	433.92 MHz
Data sheet	SMD

References

Type	R820
Ordering code	B39431R 820H210
Marking and package	C61157-A7-A86
Packaging	F61074-V8120-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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