SAW Components

SAW resonator

Short range devices

Series/type:	**R 960**
Ordering code:	**B39431R 960H110**
Date:	April 19, 2006
Version:	2.1

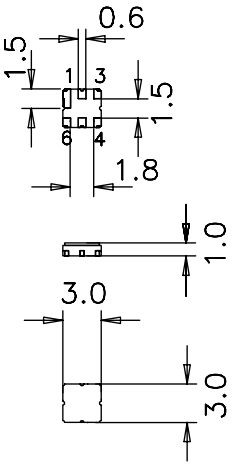
Data sheet SMD

Application

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

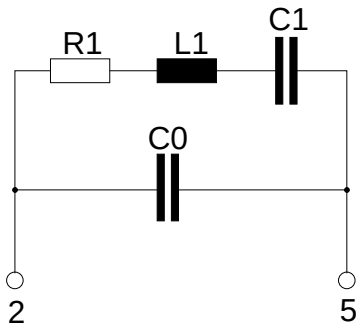
Features

- Package size 3.0 x 3.0 x 1.0 mm^3
- Package code DCC6E
- RoHS compatible
- Approximate weight 0.037 g
- Package for **S**urface **M**ount **T**echnology (**SMT**)
- Ni, gold-plated terminals
- Lead free soldering compatible with J - STD20C
- Passivation layer Elpas
- AEC-Q200 qualified component family
- **E**lectrostactic **S**ensitive **D**evice (**ESD**)



Pin configuration

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



Characteristics

Reference temperature: T_A = 25 °C
Terminating source impedance: Z_S = 50 Ω
Terminating load impedance: Z_L = 50 Ω

		min.	typ.	max.	
Center frequency[1]	f_C	433.87	433.92	433.97	MHz
Minimum insertion attenuation	α_{min}	—	1.3	1.8	dB
Unloaded quality factor	Q_U	8400	12400	—	
Ageing of f_C		—	—	–50/+50	ppm
Equivalent circuit elements					
Motional capacitance	C_1	—	1.72	—	fF
Motional inductance	L_1	—	77.9	—	µH
Motional resistance	R_1	—	17	25	Ω
Parallel capacitance[2]	C_0	—	2.3	—	pF
Temperature coefficient of frequency[3]	TC_f	—	–0.032	—	ppm/K²
Turnover temperature	T_0	10	—	30	°C

1) Center frequency is defined as maximum of the real part of the admittance.
2) If used in two port configuration (pin 1 - input, pin 3 - 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	–40/+125	°C	
Storage temperature range	T_{stg}	–40/+125	°C	
DC voltage	V_{DC}	12	V	
Source power	P_S	0	dBm	

References

Type	R 960
Ordering code	B39431R 960H110
Marking and package	C61157-A7-A143
Packaging	F61074-V8168-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."

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

Published by EPCOS AG
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