



SAW Components

SAW resonator

Short range devices

| | |
|-----------------------|------------------------|
| Series/type: | R 983 |
| Ordering code: | B39401R 983H110 |
| Date: | May 20, 2008 |
| Version: | 2.0 |

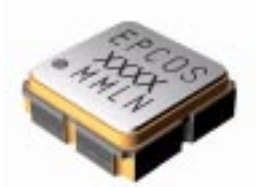


Data sheet



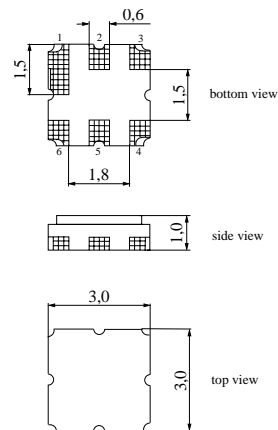
Application

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



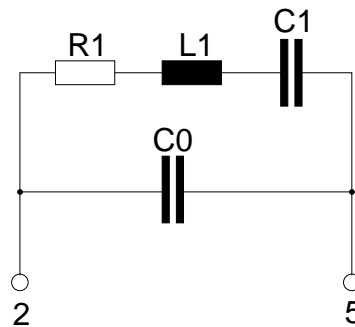
Features

- Package size 3.0 x 3.0 x 1.0 mm³
- Package code DCC6E
- 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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403.55 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 | 403.45 | 403.55 | 403.65 | MHz |
| Minimum insertion attenuation | α_{\min} | — | 1.5 | 1.9 | dB |
| Unloaded quality factor | Q_U | 8600 | 12200 | — | |
| Ageing of f_C | | — | — | -50/+50 | ppm |
| Equivalent circuit elements | | | | | |
| Motional capacitance | C_1 | — | 1.7 | — | fF |
| Motional inductance | L_1 | — | 91.84 | — | μH |
| Motional resistance | R_1 | — | 19 | 27 | 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 | — | 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 : $f_C(T_A) = f_C(T_0) (1 + TC_f (T_A - T_0)^2)$

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 | R 983 |
| Ordering code | B39401R 983H110 |
| 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.

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Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: ocean@oceanchips.ru

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А