

SAW Resonator Specification

Version No. S

Page 3

公司名称

CUSTOMER

产品名称

TYPE SAW RESONATOR 433.92MHZ

型号

PART NO. L433A55 +/-75K

贵公司部品号

CUSTOMER'S PART NO.

确认

APPROVED (Please sign here and send copy back to us.)

批准
Approved by

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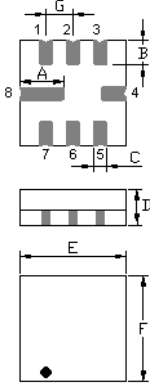
433.92MHz One-Port SAW Resonator For Wireless Remote Control

The L433A is a true one-port, surface-acoustic-wave (SAW) resonator in a surface-mount epoxy board. It provides reliable, fundamental-mode, quartz frequency stabilization i.e. in transmitters or local oscillators operating at 433.920 MHz.

**433.92 MHz
SAW Resonator**

Package Dimension

unit: mm



| Pin | Configuration |
|---------|---------------|
| 2 | Input |
| 6 | Output |
| 1,3,5,7 | Ground |
| 4,8 | Ground |

| Sign | Data/mm | Sign | Data/mm |
|------|---------|------|---------|
| A | 2.08 | E | 5.00 |
| B | 1.17 | F | 5.00 |
| C | 0.64 | G | 1.27 |
| D | 1.70 | | |

Marking

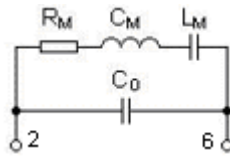
L433A

A7

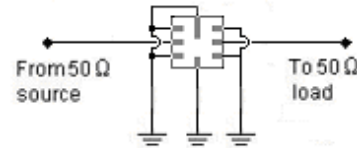
model
month/year

Marking

Equivalent LC Model and Test Circuit



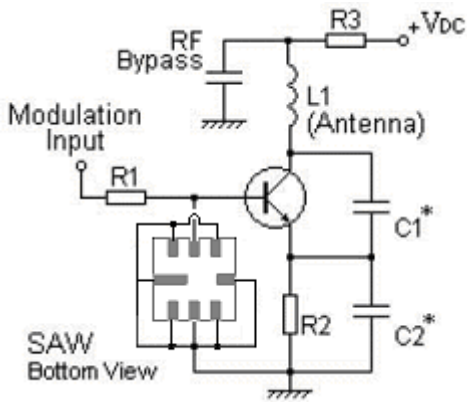
Equivalent LC Model



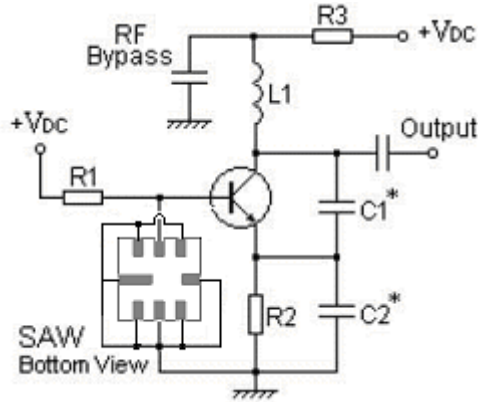
Test Circuit

Typical Application Circuits

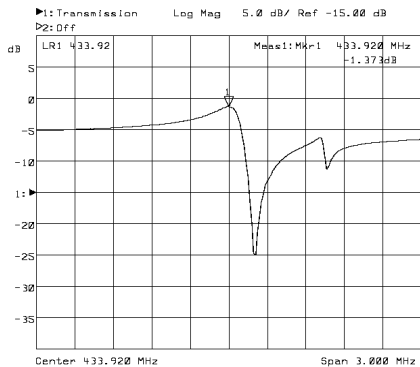
1) Low-Power Transmitter Application



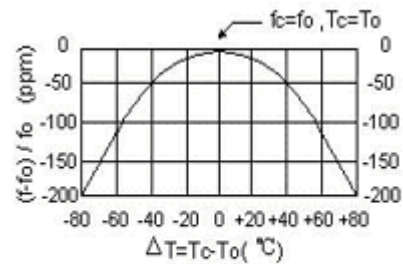
2) Local Oscillator Application



Typical Frequency Response



Temperature Characteristics



The curve shown above accounts for resonator contribution only and does not include oscillator temperature characteristics.

433.92MHz One-Port SAW Resonator For Wireless Remote Control

Absolute Maximum Ratings

| Rating | Value | Units |
|---|-------------|-------|
| CW RF Power Dissipation (See Typical Test Circuit) | +0 | dBm |
| DC Voltage Between Any Two Pins (Observe ESD Precautions) | ±30 | VDC |
| Case Temperature | -45 to +120 | °C |

Electrical Characteristics

| Characteristics | Sym | Notes | Minimum | Typical | Maximum | Units |
|---|-----------------------------------|---------|---------|-----------|---------|---------------------|
| Center Frequency (+25°C) Absolute Frequency | f_c | | 433.845 | | 433.995 | MHz |
| | Δf_c | 2,3,4,5 | | | ±75 | KHz |
| Insertion Loss | IL | 2,5,6 | | 1.5 | 2.0 | dB |
| Quality Factor Unloaded Q | Q_U | | | 12.800 | | |
| | Q_L | 5,6,7 | | 2.000 | | |
| Temperature Stability Turnover Temperature | T_O | | 24 | 39 | 54 | °C |
| | f_O | 5,7,8 | | $f_c+2.7$ | | KHz |
| | Frequency Temperature Coefficient | FTC | | 0.037 | | ppm/°C ² |
| Frequency Aging Absolute Value during the First Year | $ f_{A} $ | 1 | | ≤10 | | ppm/y τ |
| DC Insulation Resistance between Any Two Pins | | 5 | 1.0 | | | M Ω |
| RF Equivalent RLC Model Motional Resistance | R_M | | | 18 | 26 | Ω |
| | L_M | 5,7,9 | | 86.0075 | | μ H |
| | C_M | | | 1.56417 | | pF |
| | Pin 1 to Pin 2 Static Capacitance | C_O | 5,6,9 | 1.7 | 2.0 | 2.3 |
| Transducer Static Capacitance | C_P | 5,6,7,9 | | 1.7 | | pF |
| Test Fixture Shunt Inductance | L_{TEST} | 2,7 | | 78 | | nH |
| Lid Symbolization (in Addition to Lot and/or Date Code) | L433A | | | | | |

CAUTION: electrostatic Sensitive Device, Observe precautions for handling.

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- The center frequency, f_c , is measured at the minimum IL point with the resonator in the 50 Ω test system.
- Unless noted otherwise, case temperature $TC = +25^\circ\text{C} \pm 2^\circ\text{C}$.
- Frequency aging is the change in f_c with time and is specified at +65°C or less. Aging may exceed the specification for prolonged temperatures above +65°C. Typically, aging is greatest the first year after manufacture, decreasing in subsequent years.
- Turnover temperature, T_O , is the temperature of maximum (or turnover) frequency, f_O . The nominal frequency at any case temperature, TC , may be calculated from: $f = f_O [1 - FTC (T_O - TC)^2]$.
- This equivalent RLC model approximates resonator performance near the resonant frequency and is provided for reference only. The capacitance C_O is the measured static (nonmotional) capacitance between the two terminals. The measurement includes case parasitic capacitance.
- Derived mathematically from one or more of the following directly measured parameters: f_c , IL, 3 dB bandwidth, f_c versus TC , and C_O .
- The specifications of this device are based on the test circuit shown above and subject to change or obsolescence without notice.
- Typically, equipment utilizing this device requires emissions testing and government approval, which is the responsibility of the equipment manufacturer.
- Our liability is only assumed for the Surface Acoustic Wave (SAW) component(s) per se, not for applications, processes and circuits implemented within components or assemblies.