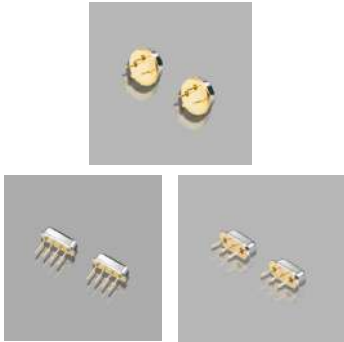


R433



Features

- External dimensions: TO-39,F-11,D-11.
- Frequency range: 433.92MHZ.
- Ideal for 433.92MHZ Remote-control and Wireless Security Transmitters.
- Very Low Series Resistance.
- Quartz Stability.

1. Absolute Maximum Rating

Rating	Value	Units
CW RF Power Dissipation	+0	dbm
DC Voltage between Any Two Pins	0 to 32	V
Case Temperature	-40 to +85	°C

2. Electrical Characteristics

Characteristic		Sym.	Min.	Typ.	Max.	Unit
Center Frequency (25°C)	Absolute Frequency	fc	433.845	433.92	433.995	MHz
	Tolerance from 433.92MHz	Δfc		± 50		KHz
Insertion Loss		IL		1.2	2.5	dB
Quality Factor	Unloaded Q	QU		11000		
	50 Ω loaded Q	QL		2000		
Temperature Stability	Turnover Temperature	TO	-	39	-	°C
	Turnover Frequency	fO		fc+8.4		KHz
	Frequency Temperature Coefficient	FTC		0.032		ppm/°C ²
Frequency Aging (Value during the First Year)		fA			10	ppm/yr
RF Equivalent RLC Model	Motional Resistance	RM		18	26	Ω
	Motional Inductance	LM		86		μH
	Motional Capacitance	CM		1.56		pF
	Pin1 to Pin2 Static Capacitance	CO	1.7	2.0	2.3	pF
	Transducer Static Capacitance	CP		1.8		pF
DC Insulation Resistance between Any Two Pins			1.0			M Ω

NOTES:

- 1) Unless noted otherwise, case temperature $T_c = +25 \pm 2^\circ C$.
- 2) The center frequency f_c is measured at the minimum insertion loss point, IL_{min} , with the resonator in the 50 Ω test system ($VSWR \leq 1.2:1$). The shunt inductance, L_{test} , is tuned for parallel resonance with C_o at f_c . Typically, $f_{OSCILLATOR}$ or $f_{TRANSMITTER}$ is approximately equal to the resonator f_c .
- 3) Turnover temperature, T_o , is the temperature of maximum (or turnover) frequency, f_o . The nominal frequency at any case temperature, T_c , may be calculated from: $f = f_o(1 - FTC(T_o - T_c)^2)$. Typically oscillator T_o is $20^\circ C$ less than the specified resonator T_o .

R433



- 4) Frequency aging is the change in f_c with time and is specified at $+65^\circ\text{C}$ or less. Aging may exceed the specification for prolonged temperatures above $+65^\circ\text{C}$. Typically aging is greatest the first year after manufacture, decreasing in subsequent years.
- 5) This equivalent RLC model approximates resonator performance near the resonant frequency and is provided for reference only. The capacitance C_o is the static (nonmotional) capacitance between pin1 and pin2 measured at low frequency (10MHZ) with a capacitance meter. The measurement includes case parasitic capacitance with a floating case. For usual grounded case applications (with ground connected to either pin 1 or pin 2 and to the case), add approximately 0.25pF to C_o .
- 6) Derived mathematically from one or more of the following directly measured parameters: f_c , IL, 3dB bandwidth, f_c versus T

3. Others

- 1) Typically, equipment utilizing this device requires emissions testing and government approval, which is the responsibility of the equipment manufacturer.
- 2) Electrostatic Sensitive Device, observe precautions for handling.
- 3) According to the different request of customer, we can supply the different Frequency precision, for example, $\pm 75\text{KHZ}$, $\pm 150\text{KHZ}$, $\pm 250\text{KHZ}$, etc.

Pin No.	Function
1	Input or Output
2	Output or Input
3	Ground

