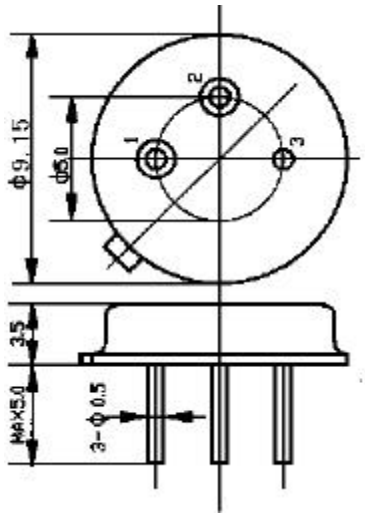
1.**Package Dimension**

(TO-39)

Unit:mm

NO.	Function
1	Output /Input
2	Input/Output
3	GND



2. **Marking**

Rugular (Display the frequency)

2-1.Colour: Black or Blue

2-2.Center Frequency(MHz):433.92

3.**Performance**

3-1.Maximum Rating

DC Voltage V_{DC}	10V
AC Voltage V_{PP}	10V(50Hz/60Hz)
Operation Temperature	-40C to +85C
Storage Temperature	-40C to +85C
RF Power Dissipation	0 dBm

3-2Electronic Characteristics

Electrical Characteristics

Characteristic		Sym	Minim	Typical	Maximu	Units
Center Frequency(+25 ¡æ)	Absolute Frequency	fc	433.845		433.995	MHz
	Tolerance from 433.92 MHz	Δfc		¡Ó75		kHz
Insertion Loss					1.0	dB
Quality Factor	Unloaded Q	Q_U		12,800		
	50 Ω Loaded Q	Q_L		2,000		
Temperature Stability	Turnover Temperature	T_0	24	39	54	¡æ
	Turnover Frequency	f_0		fc+2.7		kHz
	Frequency Temperature Coefficient	FTC		0.037		ppm/¡æ2
Frequency Aging	Absolute Value during the First Year			¡Ü0		ppm/yr
DC Insulation Resistance between Any Two Pins			1.0			MΩ
RF Equivalent RLC Model	Motional Resistance	R_M		13	26	Ω
	Motional Inductance	L_M		82.3481		μH
	Motional Capacitance	C_M		1.64228		fH
	Pin 1 to Pin 2 Static	C_O		2.4		pF

☺ CAUTION: Electrostatic Sensitive Device. Observe precautions for handling

NOTES:

1.Frequency aging is the change in f_c with time and is specified at +65¡æ or less. Aging may exceed the specification for prolonged temperatures above +65¡æ Typically, aging is greatest the first year after manufacture, decreasing in subsequent years.

2.The frequency f_c id the frequency of minimum IL with the resonator in the specified test fixture in a 50 Ω test system with VSWR ≤ 1.2 : 1. Typically, $f_{oscillator}$ or $f_{transmitter}$ is less than the resonator f_c.

3.Typically, equipment utilizing this device requires emissions testing and government approval, which is the responsibility of the equipment manufacturer.

4.Unless noted otherwise , case temperature T_c=+25¡æ¡À2¡æ

5.The design, manufacturing process, and specifications of this device are subject to change without notice.

6.Derived mathematically from one or more of the following directly measured parameters: f_c, IL, 3 dB bandwidth, f_c versus T_c , and C_0.

7.Turnover temperature, T_O, is the temperature of maximum (or turnover) frequency, f_O, The nominal center frequency at any case temperature , TC, may be calculated from :$f = f_O[1-FTC (T_O-T_C)^2]$ Typically, oscillator $T_0$is 20^o less than the specified resonator T_o.

8.This equivalent RLC model approximates resonator performance near the resonant frequency and is provided for reference only . The capacitance C_0 is the measured static (nonmotional) capacitance between either pin 1 and ground or pin 2 and ground .The measurement includes case parasitic capacitance

Note: Reference temperature shall be 25 ± 2¡æ However,the measurement may be carried out at 5¡æ to 35¡æ unless there is a dispute.

4.Reliability

4.1 Mechanical Shock: The components shall remain within the electrical specifications after 1000 shocks, acceleration 392m/s^2,duration 6 milliseconds.

4.2 Vibration Fatigue: The components shall remain within the electrical specifications after loaded vibration at 20 Hz , amplitude 1.5mm , for 2 hours.

4.3 Terminal Strength: The components shall remain within the electrical specifications after pulled 2 Kgs weight for 10 seconds towards an axis of each terminal.

4.4 High Temperature Storage: The components shall remain within the electrical specifications after being kept at the 85¡ æ2¡ ftor 48 hours, then kept at room temperature for 2 hours.

4.5 Low Temperature Storage: The components shall remain within the electrical specifications after being kept at the -25¡ æ2¡ ftor 48 hours ,then kept room temperature for 2 hours.

4.6 Temperature Cycle: The components shall remain within the electrical specifications after 5 cycles of high and low temperature testing(one cycle: 80¡ ftor 30 minutes →25 ¡ ftor 5 minutes → -25¡ ftor 30 minutes) than kept at room temperature for 2 hours.

4.7 Solder-heat Resistance : The components shall remain within the electrical specifications after dipped in the solder at 260¡ ftor 10±1seconds,then kept at room temperature for 2 hours .(Terminal must be dipped leaving 1.5 mm from the case).

4.8 Solder ability: Solder ability of terminal shall be kept at more than 80% after dipped in the solder flux at 230¡ æ±5¡ ftor 5±1 seconds.

5. Remarks

5.1Static voltage

Static voltage between signal load & ground may cause deterioration & destruction of the component. Please avoid static voltage .

5.2Ultrasonic cleaning

Ultrasonic vibration may cause deterioration & destruction of the component. Please avoid ultrasonic cleaning.

5.3Soldering

Only leads of component may be soldered. Please avoid soldering another part of component.