HR395.5

395.5MHz One-Port SAW Resonator For Wireless Remote Control

Approved by:
Checked by:
Issued by:

SPECIFICATION

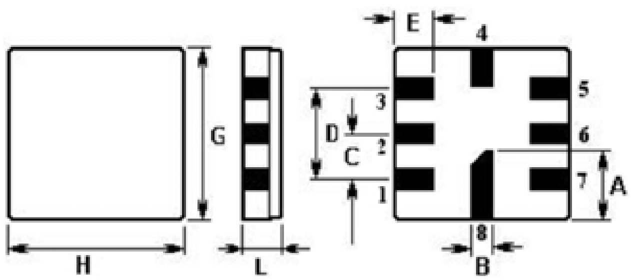
PRODUCT: SAW RESONATOR

MODEL: HR395.5 QCC8C

HOPE MICROELECTRONICS CO.,LIMITED

The HR395.5 is a true one- port , surface- acoustic- wave(SAW) resonator in a low- profile QCC8C case. It provides reliable , fundamental- mode , quartz frequency stabilization of fixed- frequency transmitters operating at 395.5 MHz.

1.Package Dimension (QCC8C)



Pin	Configuration
2	Terminal1
6	Terminal2
4,8	Case Ground
1,3,5,7	Empty

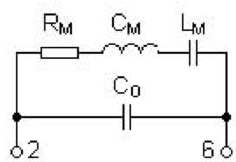
Sign	Data (unit: mm)	Sign	Data (unit: mm)
A	2.08	E	1.2
B	0.6	F	1.35
C	1.27	G	5.0
D	2.54	H	5.0

2.Marking

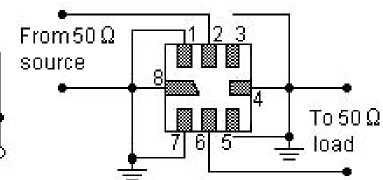
HR395.5

Color: Black or Blue

3.Equivalent LC Model and Test Circuit



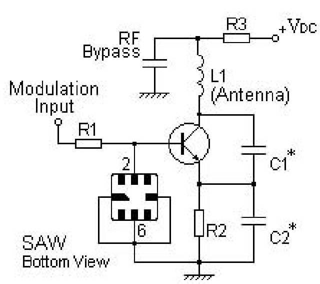
Equivalent LC Model



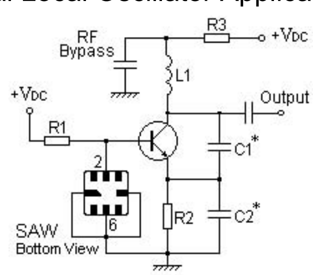
Test Circuit

4.Typical Application Circuit

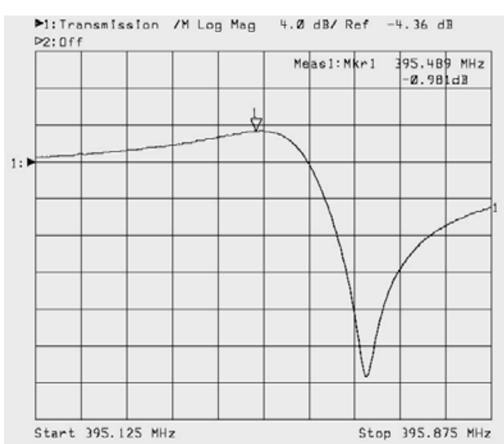
1) Typical Low-Power Transmitter Application



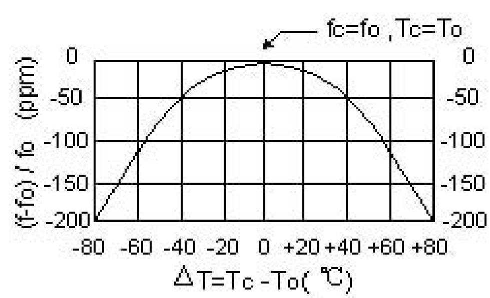
2) Typical Local Oscillator Application



5.Typical Frequency Response



6.Temperature Characteristics



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

7.Performance

7-1.Maximum Ratings

Rating	Value	Units
CW RF Power Dissipation	+10	dBm
DC Voltage Between Any Two Pins	±30V	VDC
Case Temperature	-40to+85	°C

7-2.Electronic Characteristics

Characteristic		Sym	Minimum	Typical	Maximum	Units
Center Frequency (+25°C)	Absolute Frequency	f_C	395.425		395.575	MHz
	Tolerancefrom433.920MHz	Δf_C		±75		kHz
Insertion Loss		I_L		1.3	1.8	db
Quality Factor	Unloaded Q	Q_U		12980		
	50 Ω Loaded Q	Q_L		1,800		
Temperature Stability	Turnover Temperature	T_0	25	40	55	°C
	Turnover Frequency	f_0		f_C		KHz
	Frequency Temperature Coefficient	FTC		0.037		ppm/°C^2
Frequency Aging Absolute Value during the First Year		|fA|		≤10		ppm/yr
DC Insulation Resistance Between Any Two Terminals			1.0			MΩ
RF Equivalent RLC Model	Motional Resistance	R_M		16.1	23	Ω
	Motional Inductance	L_M		84.139		μH
	Motional Capacitance	C_M		1.9266		fF
	Shunt Static Capacitance	C_0		2.3		pF

☺ **CAUTION: Electrostatic Sensitive Device. Observe precautions for handling !**

1. Frequency aging is the change in f_C with time and is specified at +65°Cor 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.
2. The center frequency, fc ,is 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 fc.
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 Tc=+25°C±2°C.
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, fc versus Tc , and Co.
7. Turnover temperature, To, is the temperature of maximum (or turnover) frequency, fo, The nominal center frequency at any case temperature , Tc, may be calculated from :f = fo [1-FTC (TO-TC) ^{2}].Typically, oscillator To is 20°C less than the specified resonator To.
8. This equivalent RLC model approximates resonator performance near the resonant frequency and is provided for reference only . The capacitance Co is the measured static (nonmotional) capacitance between either pin 1 and ground or pin 2 and ground .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 0.25 pF to Co.