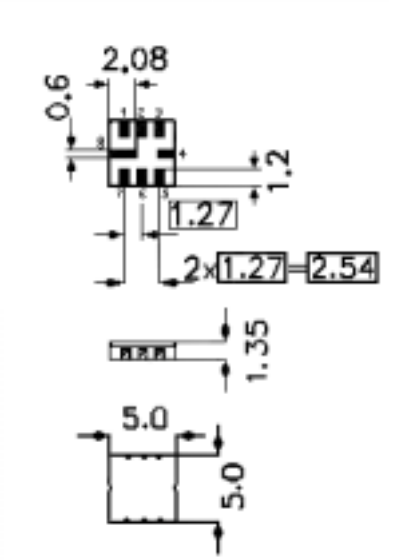
1. Package

Ceramic package QCC8C Dimensions in mm, weight 0.1g



Pin configuration

3	Input
2	Input or input ground
7	Output
6	Output or output ground
4,8	Case ground
1,5	To be grounded

2. Center Frequency (MHz): 374.00

3. Performance

3.1 Absolute Maximum Ratings

Rating	Value	Units
CW RF Power	+0	dBm
DC Voltage between	±30	VDC
Case Temperature	-35 to +85	°C

3.2 Electrical Characteristics

Characteristic	Minimum	Typical	Maximum	Units
Nominal Frequency f N	--	374.00	--	MHz
Insertion Loss (including matching	--	8.5	10.5	dB
3 dB Bandwidth	17	20.5	--	MHz
Amplitude ripple (p-p) f N±7MHz	--	0.5	1	dB
Group delay ripple (p-p) f N±7MHz	--	40	100	ns
Triple transit suppression	30	40	--	dB
Relative attenuation				
309~352 MHz	40	50	--	dB
352~357.5 MHz	35	50	--	dB
390.5~392 MHz	35	45	--	dB
392~396 MHz	35	40	--	dB
396~439 MHz	38	42	--	dB
439~454 MHz	40	45	--	dB
Ultimate Rejection	50	--	--	dB
Operating Temperature Range	-20	25	85	°C

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 °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.

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+/-2 °C.

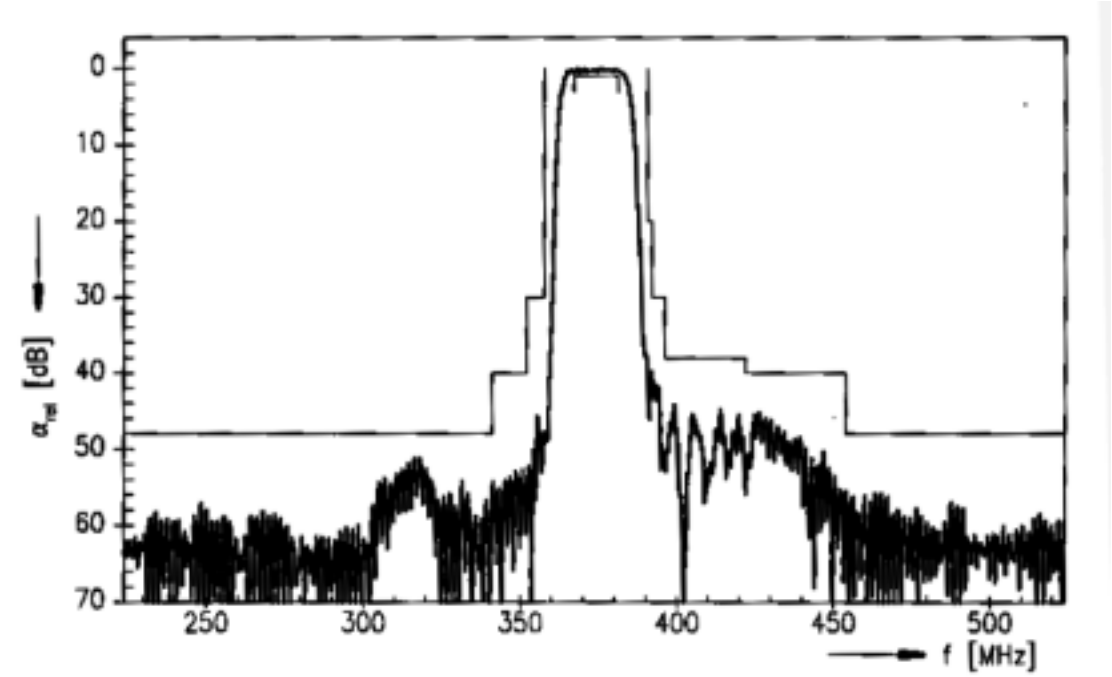
5.The design, manufacturing process, and specifications of this device are subject to change without notice.

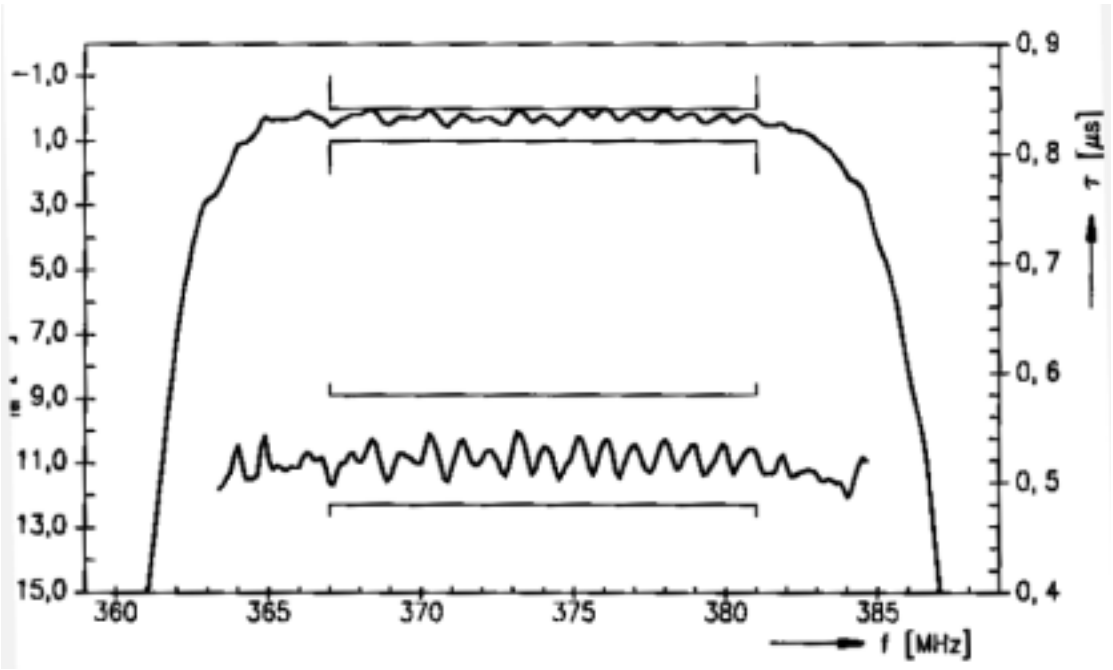
6.Derived mathematically from one or more of the following directly measured parameters: f_c, IL, 3 dB bandwidth, f_c versus T_c , and C_0.

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

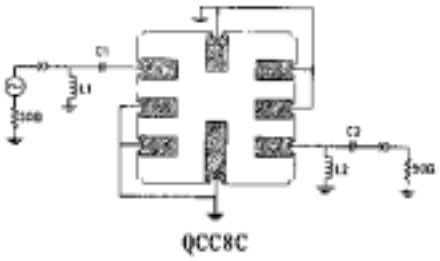
4. Typical Frequency Response





5. Impedance Matching

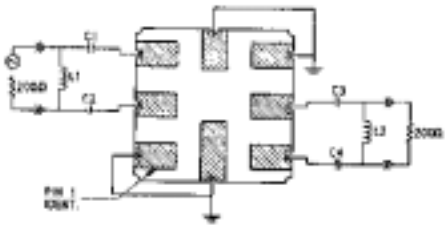
50Ω Single-ended



QCC8C

L1 = 9.5 nH, L2 = 12 nH
C1 = 15 pf, C2 = 7 pf

200Ω Balanced Input/Output



QCC8C

L1 = 27 nH, L2 = 16nH
C1 = 470 pf, C2 = 470 pf , C3 = 15 pf, C4 = 15 pf

6. Reliability

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

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

6.3 High Temperature Storage: The components shall remain within the electrical specifications after being kept at the 85±2 °C for 48 hours, then kept at room temperature for 2 hours.

6.4 Low Temperature Storage: The components shall remain within the electrical specifications after being kept at the -25±2 °C for 48 hours, then kept room temperature for 2 hours.

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

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

6.7 Solder ability: Solder ability of terminal shall be kept at more than 80% after dipped in the solder flux at 230 ± 5 °C for 5±1 seconds.

7. Remarks

7.1 Static voltage

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

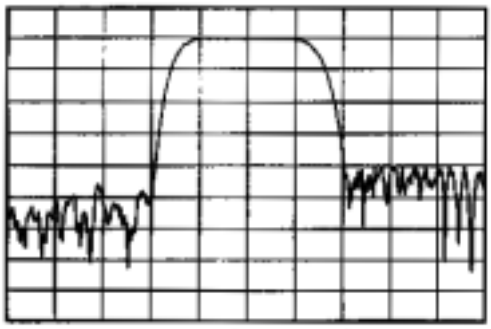
7.2 Ultrasonic cleaning

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

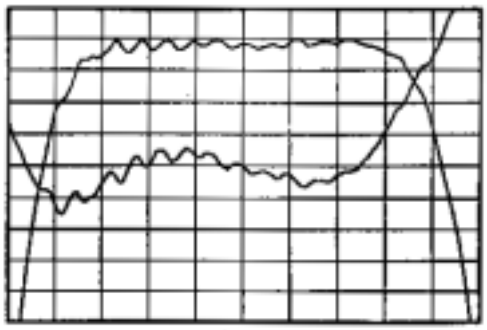
7.3 Soldering

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

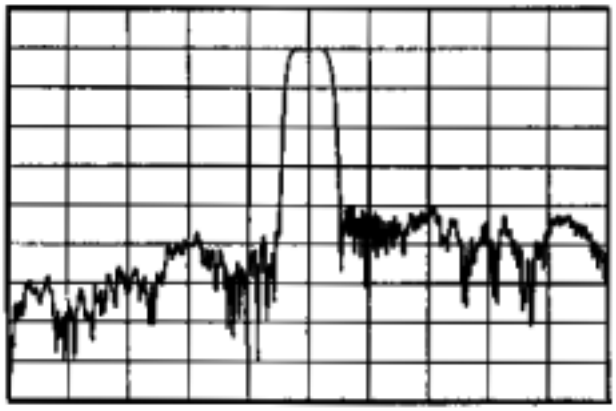
Performance



Horizontal: 7.5 MHz/Div
Vertical: 10 dB/Div



Horizontal: 150 kHz/Div
Vertical: 1 dB/Div, 5 degrees / Div



Horizontal: 30 MHz / Div
Vertical: 10 dB / Div