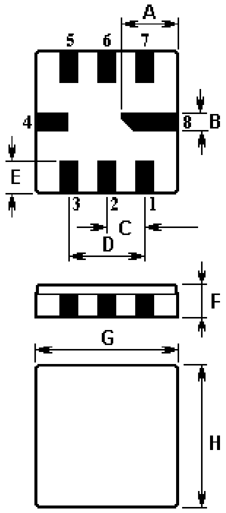
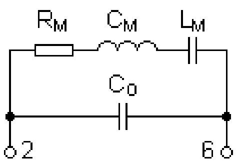
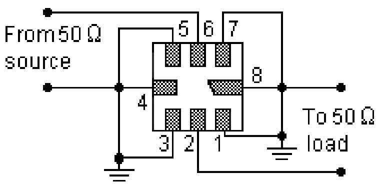
The **NDR550** is a true one-port, surface-acoustic-wave (**SAW**) resonator in a surface-mount ceramic **QCC8C** case. It provides reliable, fundamental-mode, quartz frequency stabilization i.e. in transmitters or local oscillators operating at **433.920** MHz.

1. Package Dimension (QCC8C)





Equivalent LC Model



Test Circuit

2. Marking

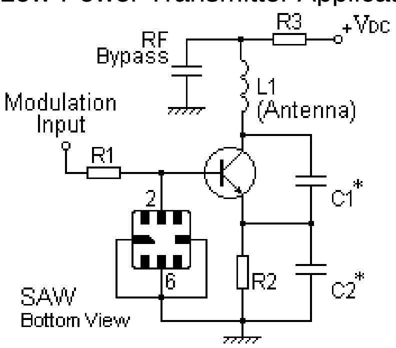
3. Equivalent LC Model and Test Circuit

NDR550

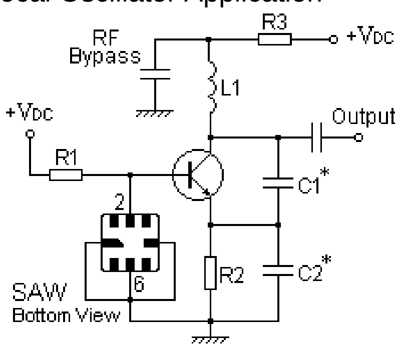
Laser Marking

4. Typical Application Circuits

1) Low-Power Transmitter Application

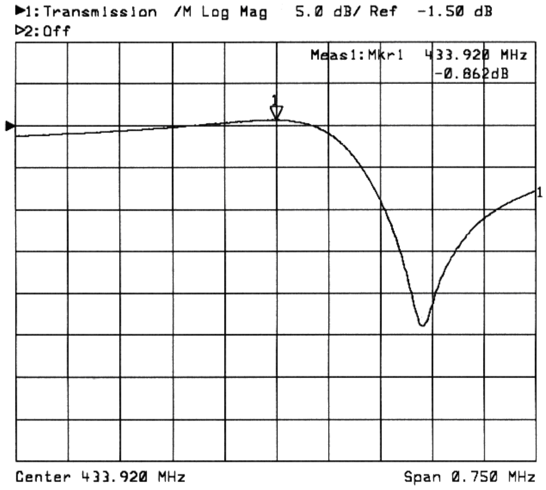


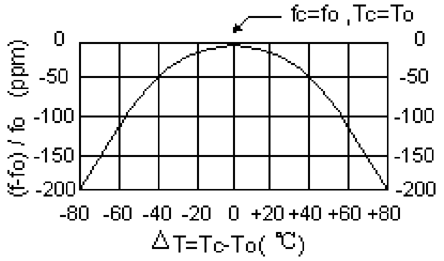
2) Local Oscillator Application



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	Unit
CW RF Power Dissipation	*P*	0	dBm
DC Voltage Between Terminals	V_{DC}	±30	V
Storage Temperature Range	T_{stg}	-40 to +85	℃
Operating Temperature Range	T_A	-10 to +60	℃

7-2. Electronic Characteristics

Characteristic		Sym	Minimum	Typical	Maximum	Unit
ist	**Maximum Unit** ℃		**aximum U**	**n**	**it**	℃
	m Unit ℃	**t**		℃		**Maxi**
Unit ℃		**xim**	**u**	**m Un**	**it**	
	bsolute Fre	que	n	cy f_C	4	3
	433.995 MHz				8	4
	3.995 MHz	45	43	3	.99	5
		95	M	Hz		
	845 433.995 MHz	3.99	5	MHz		
433.995 MHz Toleranc		e fro	m	433	.	92 MHz
±75 kHz Insertion Loss IL 1.4 1.8 dB		.	8 dB			
	oaded Q Q_U 9,200					
	Ω Loaded Q Q_L 1,200				Q	Q_L
	00	,20	0			ded
	1,200	1,2	00			d Q

L

1,200 Turnover Temperature T_0 15 45℃

u

r

e T_0 15 45℃ Turnover Frequency f_0 f_C kHz
Turnover Frequency f_0
f_C kHz
z Frequency Temperature Coefficient FTC
0.032 ppm/℃² Frequency Aging Absolute Value during the First Year|fA| ≤10 ppm/yr DC Insu
lation Resistance Between Any Two Terminals 1.0
MΩ Motional Resistance R_M 15 23Ω Motion
al Inductance L_M 50.6419 μH Motional Capacitance C_M 2.6592
fF Shunt Static Capacitance C_0 2.3 2.6 2.9 pF ⓘ**CAUTION: E**
lectrostatic Sensitive Device. Observe precautions for handling!The center frequency, f_C, is measured at the minimum IL point with the resonator in

1. the 50Ω test system. Unless noted otherwise, case temperature T_C = +25°C±2°C. Frequency aging the change in f_C with time and is s
3. pecified at +65°C or less. Aging may exceed the specification for prolonged temperatures above +6 °C. Typically, aging is greatest
3. the first year after manufacture, decreasing in subsequent years. Turnover temperature, T_0, is the temperature of maximum (or turnover) frequency, f_0. Th
4. e nominal frequency at any case temperature, T_C, may be calculated from: $f = f_0 [1 - FTC (T_0 - T_C)^2]$. This equivalent RLC model approximates resonator performance near the reson
5. ant frequency and is provided for reference only. The capacitance C_0 is the measured static (nonmotional) capa