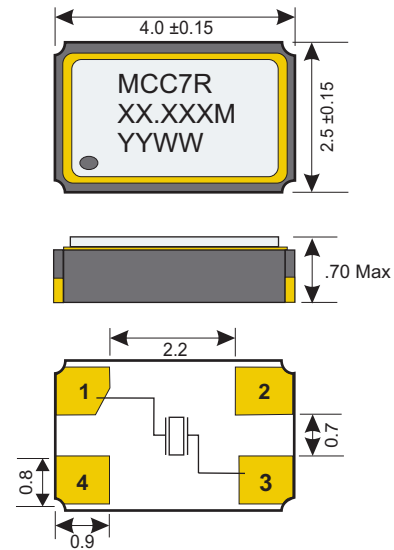




## Specifications

<b>Part Number</b>		MCC7R
<b>Frequency</b>		12.000MHz ~ 54.000MHz
<b>Mode of Operation</b>		AT- Cut Fundamental
<b>Frequency Stability</b>	<b>Calib. Tol. @ 25°C</b>	±50ppm
	<b>Temp. Range</b>	±50ppm
	<b>Aging/Year (fa)</b>	±2ppm / per year
<b>Temp. Range</b>	<b>Operating (TOPR)</b>	-10°C ~ +60°C
	<b>Storage (TSTG)</b>	-5°C ~ +55°C
<b>Drive Level (DL)</b>		100uW Max, 50uW (correlation)
<b>Capacitance</b>	<b>Load (CL)</b>	18pF
	<b>Shunt (CO)</b>	5pF Max
<b>Equiv. Series Resist. (R1)</b>		See Chart Below

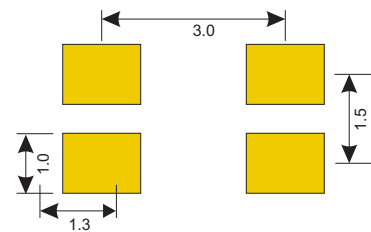
## Dimensions (mm)



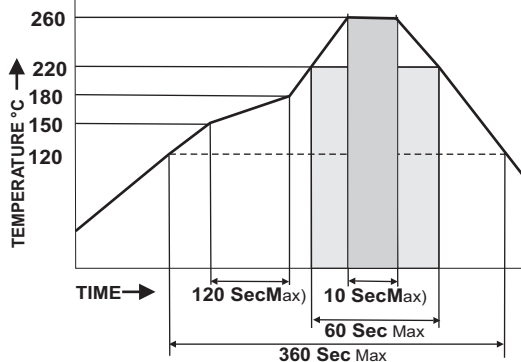
## Equivalent Series Resistance (E.S.R.) Max

12.000 ~ 23.999MHz	AT-Cut Fund.	100Ω
24.000 ~ 54.000MHz	AT-Cut Fund.	60Ω

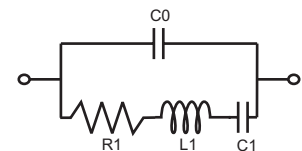
## Recommended Pad Layout (mm)



## 260°C Reflow Profile



## Equivalent Circuit



- C0 Shunt Capacitance
- R1 Equivalent Series Resistance
- L1 Motion Inductance
- C1 Motion Capacitance



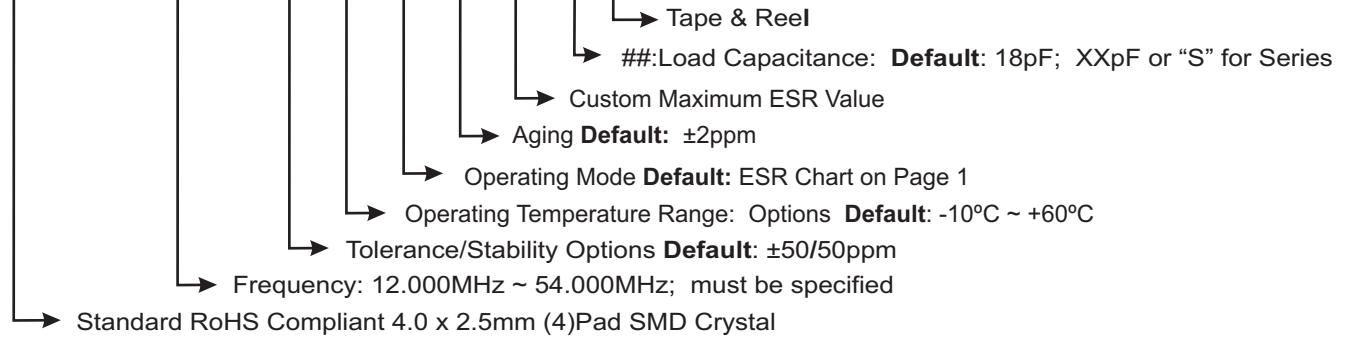
## Environmental And Mechanical

<b>Temperature</b>	10 Cycles of -30°C (30Mins), Normal (1Hr), 85°C (30Mins), Normal (1Hr)
<b>Shock</b>	Accelerated at 1000G for 1mS in each perpendicular axis.
<b>Vibration</b>	4 Cycles of 20G acceleration at 20 - 2,000Hz within 4 Minutes in each perpendicular axis.
<b>Solder</b>	Peak Temperature of 260°C Max for 10 Seconds with preheat of 160°C for 90±10% for 10 Seconds for a Maximum of 2 Cycles.

## Part Number

**MCC7R - XX.XXX M-CX RX OX AX ZX-XX T**

Tolerance Stability		Temp Range		Load Cap	
C1	10ppm/10ppm	R1	0°C ~ +50°C	##	Custom Load
C2	10ppm/20ppm	R2	-10°C ~ +60°C	S	Series
C3	10ppm/30ppm	R3	-10°C ~ +70°C	Aging	
C4	10ppm/50ppm	R4	-20°C ~ +70°C		
C5	15ppm/20ppm	R5	-30°C ~ +80°C	A1	1ppm/year Max
C6	20ppm/20ppm	R6	-40°C ~ +85°C	A3	3ppm/year Max
C7	20ppm/30ppm	R7	-5°C ~ +55°C	A4	4ppm/year Max
C8	20ppm/50ppm	RC	Custom Temp.	AC	Custom Aging
C9	30ppm/30ppm	Mode		Options	
C10	30ppm/50ppm	O3	AT-Cut 3rd O/T	T	Tape & Reel
C11	40ppm/45ppm	E.S.R			
C12	50ppm/100ppm	Z###	Cust. Max ESR		
SC	Cust. Stability				



Example: **MCC7R-20.000M-T** 20.000MHz, ±50/50ppm, fundamental Xtal with ESR of 100Ω, operating at -10°C ~ +60°C, and delivered on Tape & Reel  
 Example: **MCC7R-44.000M-C10R6-20T** 44.000MHz, ±30/50ppm AT Fundamental Xtal with 20pF Load, ESR of 60Ω, operating at -40°C ~ +85°C, and delivered on Tape & Reel

## Tape & Reel

