

Specification

Frequency Characteristics

	Parameter	Min.	Typ.	Max.	Units	Test Condition
1-1	Nominal Frequency		16 320000		MHz	
1-2	Nominal Frequency Tolerance	-2.0		+2.0	ppm	Frequency at 25 °C, 1 hour after 2 times reflow.
1-3	Frequency stability over temperature	-0.5		+0.5	ppm	Referenced to the frequency at 25°C.
1-4	Temperature range	-40		+85	°C	The operating temperature range over which the frequency stability is measured
1-5	Supply voltage stability	-0.3		+0.3	ppm	Supply voltage varied $\pm 5\%$ at 25°C
1-6	Load sensitivity	-0.2		+0.2	ppm	$\pm 10\%$ load change
1-7	Aging	-1.0		+1.0	ppm	first year at 25 °C

Power Supply

	Parameter	Min.	Typ.	Max.	Units	Test Condition
2-1	Supply voltage	3.135	3.3	3.465	V	
2-2	Supply current			6.0	mA	At maximum supply voltage

Control Voltage

	Parameter	Min.	Typ.	Max.	Units	Test Condition
3-1	Control voltage range	0.5	1.5	2.5	V	
3-2	Pulling range	± 5.0			ppm	Referenced to VCON at 1.5V
3-3	Vcon input impedance	100			kOhm	Measured between VCON and GND pin
3-4	Linearity			10.0	%	

Oscillator Output

	Parameter	Min.	Typ.	Max.	Units	Test Condition
4-1	Output waveform		CMOS			
4-2	Output voltage level high	2.97			V	
4-3	Output voltage level low			0.33	V	
4-4	Output load capacitance			15	pF	Operating range
4-5	Duty cycle	45	50	55	%	Measured at 50% VDD trigger level
4-6	Rise and fall times			8.0	ns	CMOS logic output at 10% to 90%
4-7	Start time			2.0	ms	

Phase Noise

	Parameter	Min.	Typ.	Max.	Units	Test Condition
5-1	10 Hz offset			-85	dBc/Hz	
5-2	100 Hz offset			-115	dBc/Hz	
5-3	1 KHz offset			-135	dBc/Hz	
5-4	10 KHz offset			-150	dBc/Hz	
5-5	100 KHz offset			-152	dBc/Hz	

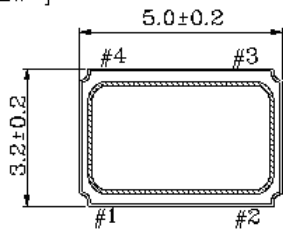
Environmental

	Parameter	Reference Std.	Test Condition
6-1	Vibration Test	MIL-STD-883 2007 Condition A JESD22-B103 Condition 1	10~2000Hz, 1.52mm, 20G, each axis for 4 hrs
6-2	Thermal Shock	MIL-STD-883 1010 Condition B JESD22-A104 Condition B	-55°C, 125°C; soak time is 10 mins, with total 200 cycles
6-3	Mechanical Shock	MIL-STD-883 2002 Condition B JESD22-B104 Condition B	1500G, half-sine, 0.5ms, each axis for 3 times.
6-4	Storage temperature		-55 °C to +125 °C

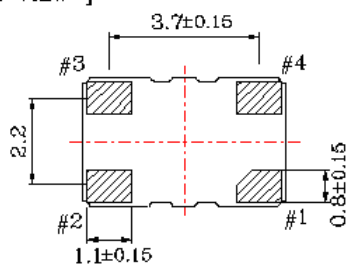
Physical Dimensions and PIN Connections

Unit : mm

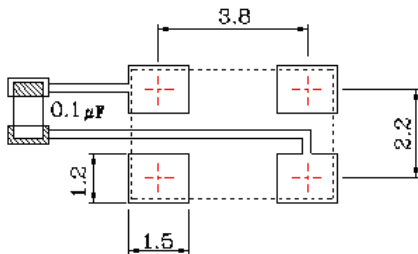
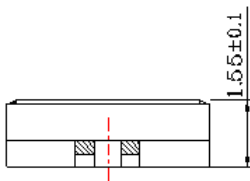
[TOP VIEW]



[BOTTOM VIEW]



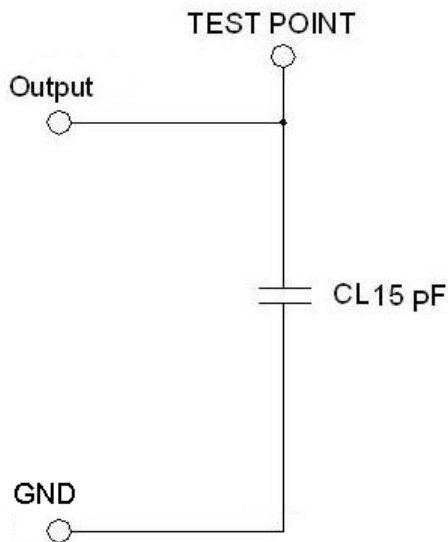
[SIDE VIEW]



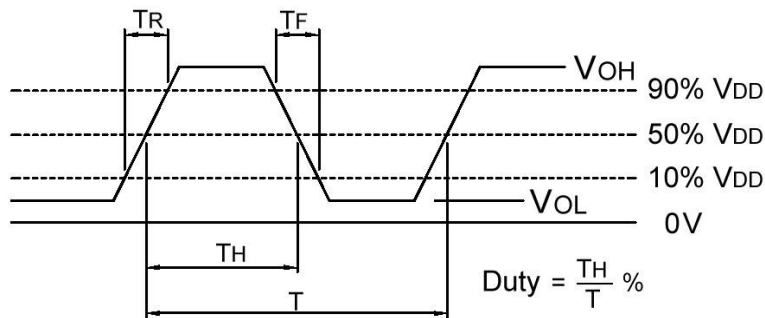
Recommended soldering pattern
*To ensure optimal oscillator performance,
place a by-pass capacitor of 0.1µF as
close to the part as possible between
Vdd and GND pads.

Pin	Function
#1	Control Voltage
#2	GND
#3	Output
#4	Supply Voltage

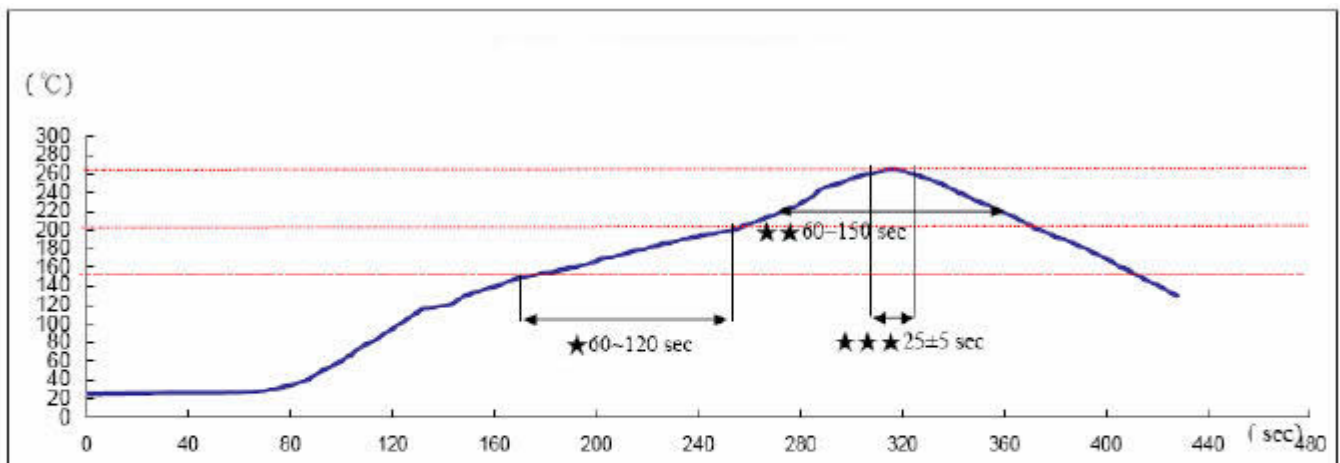
Test Circuit



Output Waveput



Recommended IR Reflow Profile



Reference Standard: JEDEC-STD 020

Test conditions: ★ Pre-heating : 150°C to 200°C, 60~120secs.

★★ Heating : 217°C, 60~150sec.

★★★ Peak temperature : 260±5°C, 25±5sec.