



**Features and Benefits**

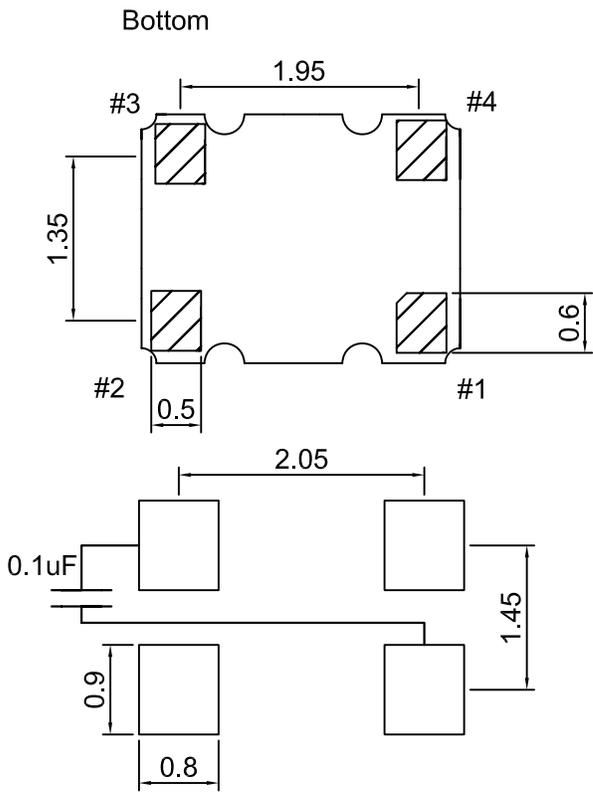
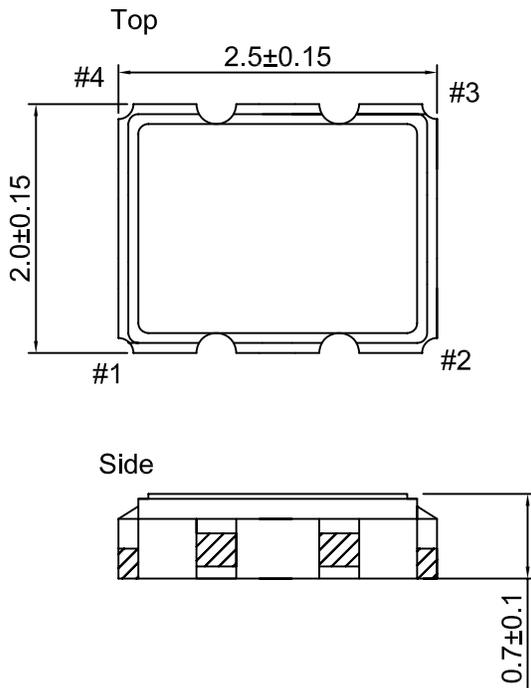
Better than  $\pm 0.5\text{ppm}$  from  $-40^\circ\text{C}$  to  $+85^\circ\text{C}$   
 3.0V supply; 1.5mA maximum  
 Less than  $-140\text{dBc/Hz}$  @ 1KHz offset

**Typical Applications**

Mobile Radio  
 Communication Equipment

**Mechanical Drawing & Pin Connections**

Drawing No:MD160110-1



Pin Connection

Pin	Function
#1	VCON
#2	GND
#3	Output
#4	Vdd

Unit : mm  
 1mm=0.0394inch

Recommended soldering pattern

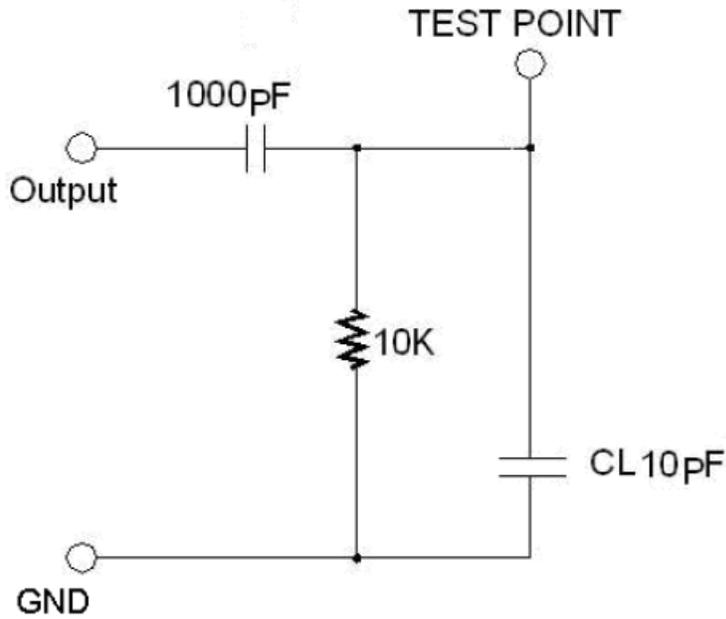


**Specifications**

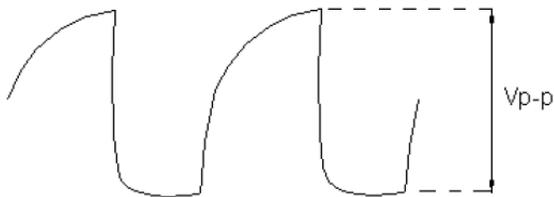
Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Nominal Frequency	F <sub>0</sub>			10.00		MHz	
<b>RF Output</b>							
Output Wave Form		DC Coupled clipped sine wave	Clipped Sine Wave				
Voltage Level			0.8			Vp-p	
Load				10 10		Kohm pF	
Start Up Time					2.0	ms	
<b>Power Supply</b>							
Voltage	V <sub>cc</sub>		2.85	3.00	3.15	V	
Current		At maximum supply voltage			1.5	mA	
<b>Control Voltage</b>							
Control Voltage Range			0.5	1.5	2.5	V	
Pulling Range		Referenced to VCON at 1.5V	±8		±15	ppm	
Vcon Input Impedance		Measured between VCON and GND pin	500			kOhm	
Linearity					10	%	
<b>Frequency Stability</b>							
Nominal Frequency Tolerance		Frequency @ +25°C	-1.0		+1.0	ppm	Before reflow
Over Temperature		-40°C to +85°C	-0.5		+0.5	ppm	Referenced to the midpoint between minimum and maximum frequency value
Supply Voltage Change		Supply voltage varied ±5% at 25°C	-0.2		+0.2	ppm	
Load Sensitivity		±10% load change	-0.2		+0.2	ppm	
Aging		1 <sup>st</sup> year at 25°C	-1.0		+1.0	ppm	
<b>Phase Noise</b>							
Phase noise		10 Hz offset		-90		dBc/Hz	
		100 Hz offset		-120			
		1 kHz offset		-140			
		10 kHz offset		-150			
		100 kHz offset		-152			
<b>Environmental Conditions</b>							
<b>Parameter</b>	<b>Test Conditions</b>		<b>Reference Std.</b>				
Operating temperature range			-40°C to +85°C				
Storage temperature range			-40°C to +85°C				
Vibration Test	10-2000Hz, 1.52mm, 20G, each axis for 4 hours		MIL-STD-883 2007 Condition A JESD22-B103 Condition 1				
Thermal Shock	-55°C, 125°C; soak time is 10 mins, with total 200 cycles		MIL-STD-883-1010 Condition B JESD22-A104 Condition B				
Mechanical Shock	1500G, half-sine, 0.5ms, each axis for 3 times		MIL-STD-883-2002 Condition B JESD22-B104 Condition B				



### Test Circuit



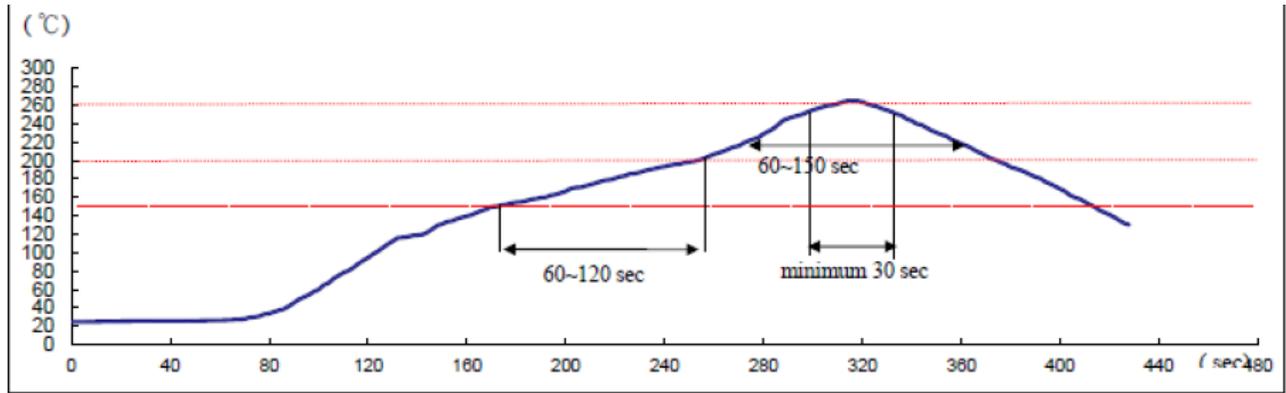
### Output Waveform





## Recommended IR Reflow Profile

IR reflow profile of ceramic SMD products for Pb free process



Reference Standard: JEDEC-STD020

Test Conditions: Pre-heating: 150°C to 200°C, 60~120secs

Heating: 217°C, 60~150secs

Peak temperature at least: 260°C, the time above 255°C, minimum 30 sec