# Dynamic Engineers Inc.

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**LC%(-$69!@B**
4 PAD SMD Sinewave XO_Crystal Oscillator
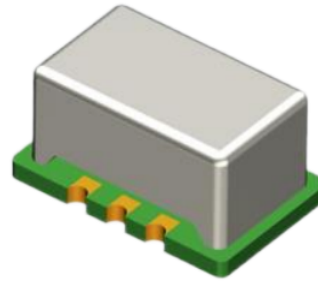
## Features and Benefits

Frequency range: 1-200MHz
Output: Sinewave
Supply voltage: 5V/3.3V
Current:70mA Max.
Frequency stability vs. temperature: ±10PPM
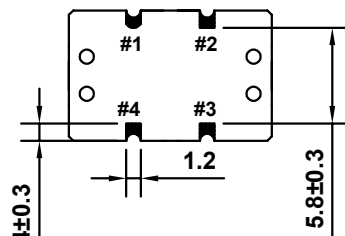Operating temperature: -40°C to +85°C
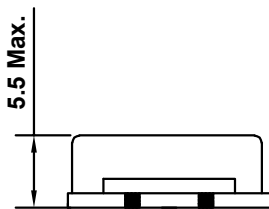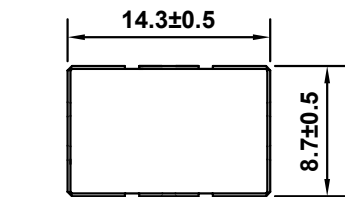Size: 14.3x8.7x5.5mm
Package type: SMD

## Typical Applications

Bluetooth wireless communication sets
DSN, PDA and Mobile Phone

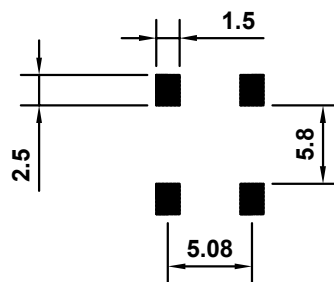## Mechanical Drawing & Pin Connections

**Drawing No:** MD&)$$$%¼%

14.3±0.5
8.7±0.5
5.5 Max.

**Recommended Solder Pattern**

1.5
2.5
5.8
5.08

#1   #2
#4   #3

1.2
5.8±0.3
1.4±0.3

**Unit in mm**
**1mm = 0.0394 inches**

**Pin Connections:**
**#1. N.C. or E/D**
**#2. GND**
**#3. OUTPUT**
**#4. Vcc**

## Specifications

| Oscillator Specification | Sym | Condition | Value | | | Unit | Note |
|---|---|---|---|---|---|---|---|
| | | | Min. | Typ. | Max. | | |
| Operational Frequency | $f_0$ | All combination of Frequency range Vs. Package type can not be available, please contact DEI | 1 | | 200 | MHz | |
| **RF Output** | | | | | | | |
| Output Waveform | | | | Sinewave | | | |
| Output Level | | 3.3V | 0 | | | dBm | |
| | | 5V | | +5 | | dBm | |
| Load | | | | 50 | | ohm | |
| **Power Supply** | | | | | | | |
| Voltage | $V_{cc}$ | ±5% | | 5/3.3 | | V | See ordering information |
| Supply Current | $V_{cc}$ =3.3V | ⩽ 25MHz | | | 15 | mA | See ordering information |
| | | ⩽ 50MHz | | | 25 | mA | |
| | | ⩽ 80MHz | | | 35 | mA | |
| | | ⩽ 125MHz | | | 40 | mA | |
| | | ⩽ 200MHz | | | 45 | mA | |
| | $V_{cc}$ =5V | ⩽ 25MHz | | | 20 | mA | |
| | | ⩽ 50MHz | | | 30 | mA | |
| | | ⩽ 80MHz | | | 50 | mA | |
| | | ⩽ 125MHz | | | 60 | mA | |
| | | ⩽ 200MHz | | | 70 | mA | |
| **Frequency Stability** | | | | | | | |
| Versus Temperature | | | ±10 | | | ppm | See ordering information |
| Aging per year | | | | | ±3 | ppm | |
| Phase Noise @50MHz Frequency | | 10Hz | | -96 | | dBc/Hz | |
| | | 100Hz | | -135 | | | |
| | | 1KHz | | -155 | | | |
| | | 10KHz | | -165 | | | |
| | | 100KHz | | -168 | | | |
| | | 1MHz | | -170 | | | |
| **Environmental Conditions** | | | | | | | |
| Operating temperature range | | -40°C to +85°C (See ordering information) | | | | | |
| Storage temperature range | | -55°C to +105°C | | | | | |
| Shock | | MIL-STD-883C, Method 2002, Condition B | | | | | |
| Vibration | | MIL-STD-883C, Method 2007, Condition A | | | | | |
| Solderability | | MIL-STD-883C, Method 2003 | | | | | |
| Seal integrity | | MIL-STD-883C, Method 1014, Condition C & A2 | | | | | |
| Marking | | MIL-STD-202F, Method 215 | | | | | |

# Ordering Information

| XO1490BE-LN | - | xMHz- | 01 | 02 | 03 |
|---|---|---|---|---|---|
| Group | | | | Code | |

For example, XO1490BE-LN -100MHz-161 denotes the VCXO has the following specifications:

| | |
|---|---|
| Frequency: | 100MHz |
| Temperature Range: | 0°C to +50°C |
| Stability Over Temperature: | ±100 ppm |
| Supply Voltage: | 5V |

| 01 | Temperature Range |
|---|---|
| Code | Specification |
| 1 | 0°C to +50°C |
| 2 | -10°C to +60°C |
| 3 | -20°C to +70°C |
| 4 | -30°C to +75°C |
| 5 | -40°C to +80°C |
| 6 | -40°C to +85°C |

| 02 | Frequency Stability |
|---|---|
| Code | Specification |
| 1 | ±10 ppm |
| 2 | ±15 ppm |
| 3 | ±20 ppm |
| 4 | ±30 ppm |
| 5 | ±50 ppm |
| 6 | ±100 ppm |

| 03 | Supply Voltage |
|---|---|
| Code | Specification |
| 1 | 5 V |
| 2 | 3.3 V |