Ultra-low Power Crystal Oscillator

## **Features and Benefits**

Frequency range: 10MHz Supply voltage: 0.9V Current: 1.5mA Max.

Frequency stability vs. temperature: ±25PPM

Aging: ±3PPM per year

Operating temperature: -20°C to +70°C

Size: 3.2x2.5x0.95 mm

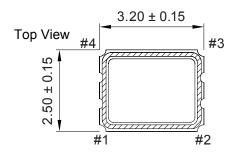
# **Description**

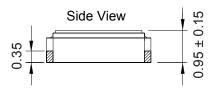
XO3225BM01-LP-10MHz-211 is the low power crystal oscillator. The power consumption can be less than 1.5mA. It can be widely used in the low power consumption applications.

# **Mechanical Drawing & Pin Connections**

**Drawing No:** 

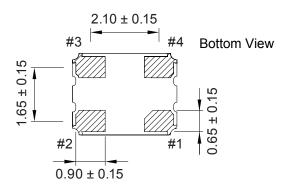
MD220023-1



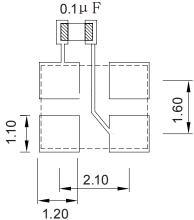


| Function  |
|-----------|
| Tri-state |
| GND       |
| Output    |
| Vcc       |
|           |

Unit in mm 1mm = 0.0394 inches



#### Recommended Soldering Pattern



To ensure optimal oscillator performance, place a by-pass capacitor of 0.1uF as close to the part as possible between Vcc and GND PAD



# Dynamic Engineers Inc.

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## XO3225BM01-LP-10MHz-211

Ultra-low Power Crystal Oscillator

# **Specifications**

| Oscillator<br>Specification    | Sy             | Condition  | Value               |      |                     | Unit | Note |
|--------------------------------|----------------|--|---------------------|------|---------------------|------|------|
|                                | m              | Condition  | Min.                | Тур. | Max.                |      |      |
| Operational Frequency          | f <sub>0</sub> |  |                     | 10   |                     | MHz  |      |
| RF Output                      |                |  |                     |      |                     |      |      |
| Output Waveform                |                |  |                     | CMOS |                     |      |      |
| Output level                   |                | High   | 2.97                |      |                     | V    |      |
|                                |                | Low  |                     |      | 0.33                | V    |      |
| Load                           |                |  |                     | 15   |                     | pF   |      |
| Duty Cycle                     |                |  | 45                  |      | 55                  | %    |      |
| Rise & Fall Time               |                | measured between 10% and 90% of Vcc, with an output load of 15pF |                     |      | 4                   | ns   |      |
| Tri-State<br>(Input to Pin1)   |                | Enable<br>(High voltage or floating)                             | 0.7 V <sub>cc</sub> |      |                     | V    |      |
|                                |                | Disable<br>(Low voltage or GND)                                  |                     |      | 0.3 V <sub>cc</sub> | V    |      |
| Startup Time                   |                |  |                     |      | 4                   | ms   |      |
| Power Supply                   |                |  |                     |      |                     |      |      |
| Voltage                        | Vcc            | ±5%  |                     | 0.9  |                     | V    |      |
| Current                        |                | At 15pF load   |                     |      | 1.5                 | mA   |      |
|                                |                | No load condition  |                     |      | 0.9                 | mA   |      |
| Stand by Current               |                |  |                     |      | 100                 | uA   |      |
| Frequency Stability            | 1              |  |                     |      |                     |      |      |
| Versus Temperature             |                | @-20°C to +70°C  |                     |      | ±25                 | ppm  |      |
| Period jitter (Pk-Pk)          |                |  |                     |      | 40                  | ps   |      |
| RMS phase jitter               |                | Integrated 12KHz to 20MHz  |                     |      | 1                   | ps   |      |
| Aging@+25°C                    |                | 1 <sup>st</sup> year   |                     |      | ±3.0                | ppm  |      |
| <b>Environmental Condition</b> | ns             |  |                     |      |                     |      |      |
| Operating temperature ra       | nge            | -20°C to +70°C   |                     |      |                     |      |      |
| Storage temperature range      | ge             | -55°C to +125°C  |                     |      |                     |      |      |