



Features and Benefits

Frequency range: 10-52MHz

Supply voltage: 2.5V or 3.3V

Steady current: 8.0mA Max

Output waveform: CMOS or Clipped Sinewave

Frequency stability vs. operating temperature: ± 0.28 PPM

Phase noise@10KHz: -154dBc/Hz

Operating temperature: -40°C to +85°C

Size: 7.0x5.3x1.5mm

Typical Applications

Guidance

Avionics

Precision GNSS/Positioning

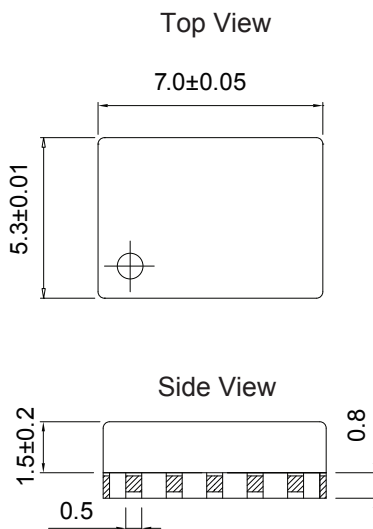
Real Time Kinematic (RTK)

Description

TCXO7500BM-LG is the Ultra-Low G Sensitivity TCXO. The frequency stability can be less than ± 0.28 PPM. It can be widely used in the portable communication devise.

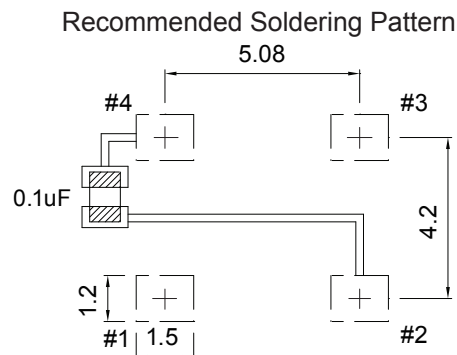
Mechanical Drawing & Pin Connections

Drawing No: MD220031-1



| Pin# | Function |
|------|-----------------------------|
| 1 | Vcon:VC-TCXO NC/GND:TCXO |
| 2 | GND |
| 3 | OUTPUT |
| 4 | V _{CC} |

Unit in mm
1mm = 0.0394 inches



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



Specifications

| Oscillator Specification | Sym | Condition | Value | | | Unit | Note |
|-----------------------------|-----------------|--|---------------------|-----------|---------------------|---------|----------------------|
| | | | Min. | Typ. | Max. | | |
| Operational Frequency | f ₀ | | 10 | | 52 | MHz | |
| RF Output | | | | | | | |
| Output Waveform | | | CMOS | | | | |
| Load | | | | 15 | | pF | |
| Output Level High | | | 0.9*V _{CC} | | | V | |
| Output Level Low | | | | | 0.1*V _{CC} | V | |
| Duty Cycle | | | 45 | | 55 | % | |
| Output Waveform | | | Clipped Sine | | | | |
| Load | | | | 10k//10pF | | Kohm/pF | |
| Output Level | | | 0.8 | | | Vp-p | |
| Start Time | | | | | 5 | ms | |
| Power Supply | | | | | | | |
| Voltage | V _{CC} | ±5% | | 2.5/3.3 | | V | See ordering section |
| Current | | CMOS output | | | 8.0 | mA | |
| | | Clipped sine output | | | 5 | mA | |
| Frequency Stability | | | | | | | |
| Versus Temperature | | | | | ±0.28 | ppm | See ordering section |
| Versus Supply Voltage | | ±10% | | | ±0.1 | ppm | |
| Versus Load | | ±10% | | | ±0.05 | ppm | |
| Aging @ first year | | | | | ±1.0 | ppm | |
| Frequency Tolerance | | Frequency at 25°C, 1 hour after reflow | | | ±2.0 | ppm | |
| G Sensitivity | | Gamma Vector, 3-axes | | | 0.3 | ppb/g | |
| Phase Noise @10MHz | | @10Hz | | -107 | | dBc/Hz | |
| | | @100Hz | | -135 | | | |
| | | @1KHz | | -149 | | | |
| | | @10KHz | | -154 | | | |
| Environmental Conditions | | | | | | | |
| Operating temperature range | | -40°C to +85°C (see ordering section) | | | | | |
| Storage temperature range | | -55°C to +125 °C | | | | | |



Ordering Information

| | | | | | |
|---------------------|---|------|----|----|----|
| TCXO7500BM-LG-XXMHz | - | 01 | 02 | 03 | 04 |
| Group | | Code | | | |

For example, TCXO7500BM-LG-10MHz-2222 denotes the TCXO has the following specifications:

| | |
|-----------------------------|----------------|
| Frequency: | 10MHz |
| Temperature Range: | -40°C to +85°C |
| Stability Over Temperature: | ±0.5 ppm |
| Supply Voltage: | 3.3V |
| Output Waveform | Clipped sine |

| 01 | Temperature Range |
|------|-------------------|
| Code | Specification |
| 1 | -20°C to +70°C |
| 2 | -40°C to +85°C |

| 02 | Frequency Stability |
|------|---------------------|
| Code | Specification |
| 1 | ±0.28 ppm |
| 2 | ±0.5 ppm |
| 3 | ±1.0 ppm |
| 4 | ±2.5 ppm |

| 03 | Supply Voltage |
|------|----------------|
| Code | Specification |
| 1 | 2.5 V |
| 2 | 3.3 V |

| 04 | Output Waveform |
|------|-----------------|
| Code | Specification |
| 1 | CMOS |
| 2 | Clipped Sine |

Frequency Stability vs. Temperature

| Temperature Range [°C] | Frequency Stability | | | |
|---------------------------|---------------------|-----------|-----------|-----------|
| | ±0.28 ppm | ±0.5 ppm | ±1.0 ppm | ±2.5 ppm |
| -20°C to +70°C | Conditional | Available | Available | Available |
| -40°C to +85°C | Not Available | Available | Available | Available |

Note: This is the general datasheet, for reference only.
For the detail datasheet, pls contact us.