



Dynamic Engineers Inc.

2550 Gray Falls Dr., Suite#128, Houston, TX, 77077 USA
TEL: 1-281-870-8822 EMAIL: Sales@DynamicEng.com

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25.4x25.4x12.7mm 10MHz OCXO

Features and Benefits

- Frequency range: 10MHz
- Supply voltage: 5.0V
- Steady state: 1.3W Max
- Output waveform: Sinewave
- Frequency stability vs. operating temperature: ± 10.0 ppb
- Aging: ± 50 ppb per year
- Phase noise@10KHz: -152dBc/Hz
- Operating temperature: -40°C to +85°C
- Size: 25.4x25.4x12.7mm

Typical Applications

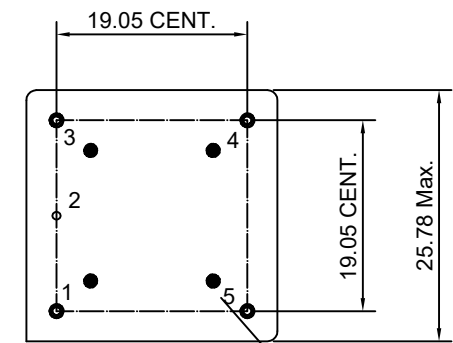
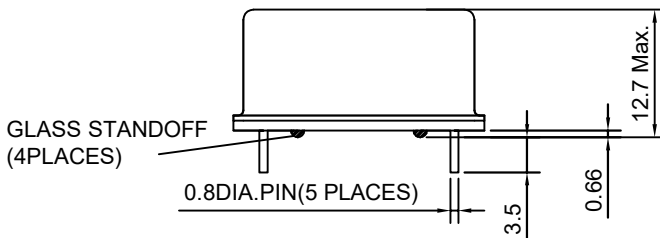
- Small Cell, Portable Telecommunication Device
- Test and Instrumentation
- Synthesizer, Digital switch, Reference Timing Circuit
- Packet Timing Protocol ATCOM System

Description

OCXO2525BM-FD-10MHz_Sine-3211 is designed for applications where exceptional frequency stability and timing is required. It has both excellent temperature performance and short-term stability. These characteristics make it an excellent choice for timing applications.

Mechanical Drawing & Pin Connections

Drawing No: MD160042-'



VIEW FROM BOTTOM
NUMBERS FOR REFERENCE ONLY
(NOT STAMPED ON UNIT)

PIN Function

| Pin | Function |
|-----|----------------|
| 1 | R.F. OUTPUT |
| 2 | GND |
| 3 | Control Votage |
| 4 | N.C. |
| 5 | Supply Voltage |

Unit in mm
1mm = 0.039 inches

Dynamic Engineers reserves the right to make changes to the company datasheet(s) along with other information contained inside; such as data tables and araphs without notification to potential customers who may have earlier revisions in their possession.



Specifications

| Oscillator Specification | Sym | Condition | Value | | | Unit | Note |
|------------------------------------------------------------|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----------|------|-------|--------|---------------------------------------------------|
| | | | Min. | Typ. | Max. | | |
| Operational Frequency | F _{nom} | | | 10 | | MHz | |
| RF Output | | | | | | | |
| Waveform | | | Sinewave | | | | |
| Level | | | +6 | +8 | +10 | dBm | |
| Load | | | 50 | | | ohm | |
| Harmonics | | | | | -30 | dBc | |
| Spurious | | | | | -60 | dBc | |
| Electrical Frequency Adjustment (PIN = "VCO INPUT") | | | | | | | |
| Tuning Range | | VCO @ Min. Voltage | | | -0.5 | ppm | Referenced to frequency at nominal Center Voltage |
| | | VCO @ Max. Voltage | +0.5 | | | ppm | |
| Control Voltage | | | 0 | | 5.0 | V | |
| Slope | | | positive | | | | |
| Center Voltage | | | | +2.5 | | V | |
| Linearity | | | -10 | | +10 | % | |
| Input Impedance | | | 100 | | | Kohm | |
| Power Supply | | | | | | | |
| Supply Voltage | V _s | | 4.75 | 5.0 | 5.25 | V | |
| Steady state | | +25°C | | | 1.3 | W | |
| Current | | @ turn on | | | 800 | mA | |
| Frequency Stability | | | | | | | |
| Versus Operating Temperature Range | | ref to +25°C | | | ±10.0 | ppb | |
| Initial Frequency Accuracy | | @ +25 ±1°C; after turn on power 15 ±1 minutes; ≤90 days following date code; VCO Input voltage @ Center Voltage ±0.001V | | | ±0.1 | ppm | |
| Versus supply voltage | | ±5% change | | | ±0.5 | ppb | |
| Versus Load | | ±5% change | | | ±0.5 | ppb | |
| Short Term | | | | | 0.05 | ppb/s | Root Allan variance |
| Aging | | Per day, at time of shipment | | | ±0.5 | ppb | |
| Aging Per Day | | after 30 days | | | ±0.5 | ppb | |
| Aging 1 st Year | | | | | ±50 | ppb | |
| Aging 10 Years | | | | | ±0.3 | ppm | |
| Warm-up | | In 10 minutes @25±1°C | | | ±10 | ppb | Reference to 1 hour |
| Phase Noise | | 1Hz | | -95 | -90 | dBc/Hz | |
| | | 10Hz | | -125 | -120 | dBc/Hz | |
| | | 100Hz | | -140 | -135 | dBc/Hz | |
| | | 1kHz | | -148 | -145 | dBc/Hz | |
| | | 10kHz | | -152 | -150 | dBc/Hz | |
| Environmental, Mechanical Conditions | | | | | | | |
| Operating temperature range | -40°C to +85°C | | | | | | |
| Storage temperature range | -55°C to +105°C | | | | | | |
| Humidity | MIL-STD-202, Method 103 Test Condition A; 95% RH @ +40°C, non-condensing,240 hours | | | | | | |
| Vibration (non-operating) | MIL-STD-202, Method 201; 0.06" total p-p, 10-55Hz | | | | | | |
| Shock (non-operating) | MIL-STD-202, Method 213, test condition J; 30g,11ms, half-sine | | | | | | |