



# Dynamic Engineers Inc.

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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:  $\pm 3$ ppb
- Aging:  $\pm 50$ ppb per year
- Phase noise@10KHz: -152dBc/Hz
- Operating temperature: -30°C to +70°C
- Size: 25.4x25.4x12.7mm

## Typical Applications

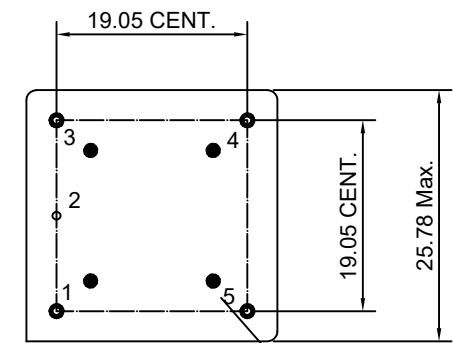
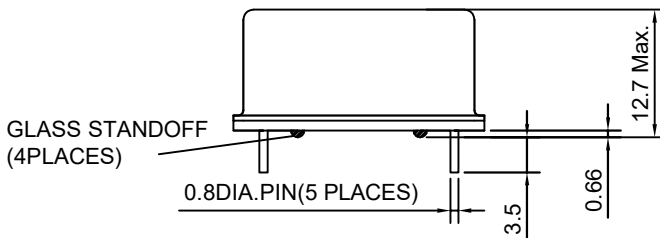
- Small Cell, Portable Telecommunication Device
- Test and Instrumentation
- Synthesizer, Digital switch, Reference Timing Circuit
- Packet Timing Protocol ATCOM System

## Description

OCXO2525BM-FD-10MHz\_Sine-1111 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 <sub>nom</sub>			10		MHz	
<b>RF Output</b>							
Waveform			Sinewave				
Level			+6	+8	+10	dBm	
Load			50			ohm	
Harmonics					-30	dBc	
Spurious					-60	dBc	
<b>Electrical Frequency Adjustment (PIN = "VCO INPUT")</b>							
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	
<b>Power Supply</b>							
Supply Voltage	V <sub>s</sub>		4.75	5.0	5.25	V	
Steady state		+25°C			1.3	W	
Current		@ turn on			800	mA	
<b>Frequency Stability</b>							
Versus Operating Temperature Range		ref to +25°C			±3.0	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 <sup>st</sup> 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	
<b>Environmental, Mechanical Conditions</b>							
Operating temperature range		-30°C to +70°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					