



# Dynamic Engineers Inc.

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

## OCXO2525CR-ULG

Software Compensated ULTRA-LOW-G OCXO

### Features and Benefits

- Frequency range: 1-60MHz
- Supply voltage: 5.0V
- Steady state: 2.0W Max
- Output waveform: LVCMOS
- Frequency stability vs. operating temperature:  $\pm 0.25$ ppb
- Aging:  $\pm 50$ ppb 20 years
- Phase noise@10KHz: -154dBc/Hz
- Operating temperature: -40°C to +105°C
- Size: 25.4x25.4x13.2mm

### OCXO VDJM FY

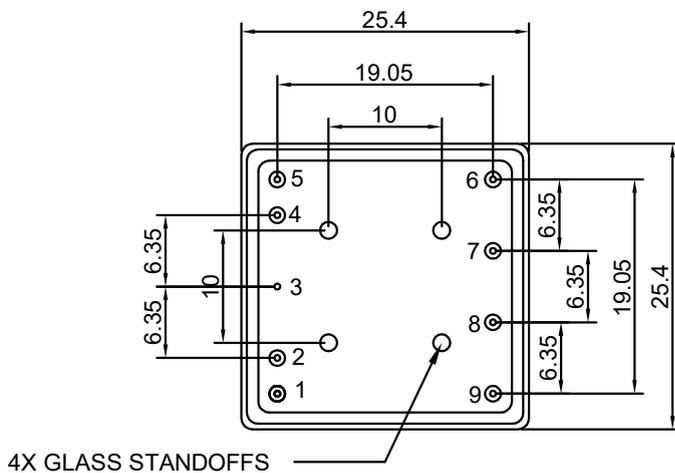


### Typical Applications

- GPS/GNSS
- Naval Vessels
- Commercial and Military Aircraft
- Smart Munitions
- Ground Vehicles
- Industrial Construction Equipment
- Autonomous Agricultural Vehicles

### Mechanical Drawing & Pin Connections

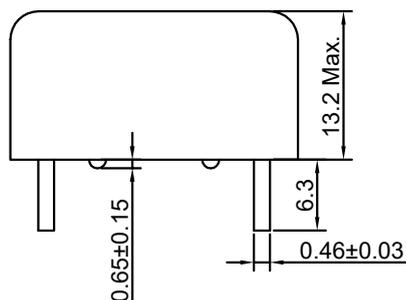
Drawing No: MD230015-1



#### Pin connections

PIN #	Symbol
1	RF OUT
2	N.C./Serial Out
3	GND
4	N.C./Serial In
5	N.C.
6	N.C.
7	N.C.
8	N.C.
9	Supply Voltage

Unit in mm  
1mm = 0.0394 inches





**Specifications**

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Frequency	F <sub>nom</sub>		1		60	MHz	
<b>RF Output</b>							
Signal Waveform			LVCMOS				
Load			15			pF	
Output High	V <sub>OH</sub>			3.3		V	
Output Low	V <sub>OL</sub>			0.1		V	
Duty Cycle			45	50	55	%	
Rise/Fall Time		Measured between 10% and 90%			6	nS	
<b>Power Supply</b>							
Supply Voltage	V <sub>cc</sub>		4.75	5.0	5.25	V	
Warm-up Time		±10ppb of 30 minute frequency@25°C			5	min	
Start-up time		To reach 90 % of Final Amplitude and ±150 ppb of 30-Minute Frequency.			100	mS	
Power Consumption		Steady state, +25°C			2.0	W	
		Warm-up			5.25	W	
<b>Frequency Adjustment Range</b>							
Oven Ready (PIN 6)		Open collector-10k ext pull up to +5V					
Oven not stabilized			2.4			V	
Oven stabilized					0.5	V	
Communication Protocol			2-pin Serial				
Pullability							See ordering information
Linearity					1	%	
<b>Frequency Stability</b>							
Versus Operating Temperature Range		As Measured from Hot to Cold @ 1 Degree/Minute				ppb	See ordering information
Calibration Tolerance		At time of shipment			±5.0	ppb	
Versus supply voltage		±5% change			±0.1	ppb	
Versus load		±5% change			±0.25	ppb	
Aging							See ordering information
SSB Phase noise (10MHz)		1Hz offset		-80	-74	dBc/Hz	
		10Hz offset		-108	-102	dBc/Hz	
		100Hz offset		-127	-123	dBc/Hz	
		1KHz offset		-148	-145	dBc/Hz	
		10KHz offset		-154	-150	dBc/Hz	
		100KHz offset		-154	-150	dBc/Hz	
<b>Environmental, Mechanical Conditions</b>							
Shock per MIL-STD-202 (Survive)	Method 213, Condition C						
Vibration per MIL-STD-202 (Survive)	Method 204, Condition A						
Operational temperature range	See ordering information						



**Ordering Information**

OCXO2525CR- ULG	-	12.3MHz	-	x	x	x	x	x	x
Group				01	02	03	04	05	06

For example, OCXO2525CR-ULG -12.3MHz-1-1-2-1-2-1 denotes the OCXO has the following specifications:

Temperature Range: 0°C to +50°C  
 Stability Over Temperature: ±10ppb  
 Pullability: ±6.25ppm

ACCEL Sensitivity: 0.25ppb/g  
 Aging per day: ±1ppb  
 Aging per 20 years: ±2000ppb

01	Temperature Range
Code	Specification
1	0°C to +50°C
2	-20°C to +70°C
3	-40°C to +85°C
4	-40°C to +105°C

02	Frequency Stability
Code	Spec
1	±10ppb
2	±5.0ppb
3	±1.0ppb
4	±0.5ppb
5	±0.25ppb

03	Pullability
Code	Specification
1	None
2	±6.25ppm
3	±12.5ppm

04	ACCEL Sensitivity
Code	Spec
1	0.25ppb/g
2	0.10ppb/g
3	0.05ppb/g
4	0.03ppb/g
5	0.01ppb/g

05	Aging per day
Code	Spec
1	N/A
2	±1ppb
3	±0.75ppb
4	±0.5ppb
5	±0.3ppb

06	Aging per 20 years
Code	Spec
1	±2000ppb
2	±1000ppb
3	±500ppb
4	±250ppb
5	±50ppb