



# Dynamic Engineers Inc.

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

## OCXO2525S-100MHz-ULN-X Low phase-noise OCXO

### Features and Benefits

- Small hermetically sealed package
- Tight frequency stability
- Low power consumption
- Fast warm-up time
- Electrical frequency tuning input
- Reference voltage output
- RoHS-compliant (lead-free)

### Typical Applications

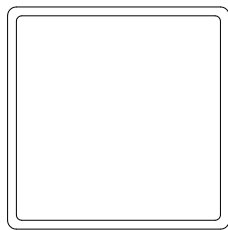
- Instrument Reference
- Microwave Communication
- Clock Reference for Microwave Signal Source
- Test & Measurement
- Telecom Systems
- Radar Systems

### Description

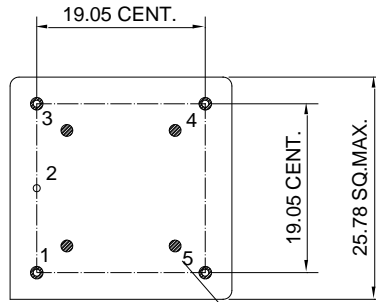
An ultra-low noise 100 MHz ovenized oscillator platform packaged in a globally accepted industry standard 25 x 25 mm hermetic package.

### Mechanical Drawing & Pin Connections

Drawing No: MD160042-1

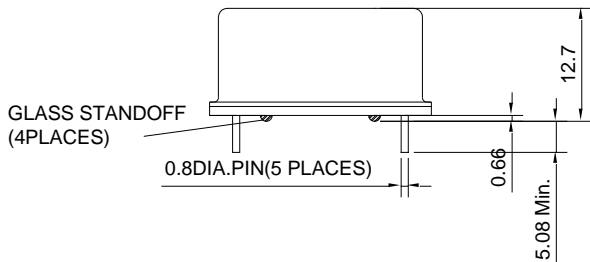


VIEW FROM TOP



VIEW FROM BOTTOM

NUMBERS FOR REFERENCE ONLY  
(NOT STAMPED ON UNIT)



Pin	Signal
1	R.F. OUTPUT
2	0 VOLTS&CASE
3	VCO INPUT
4	Not Connected
5	+VDC

Unit: mm  
1mm=0.039inch



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## Specifications

OCXO Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Frequency Range	F <sub>0</sub>			100		MHz	
Initial Accuracy		@+25°C±/-1°C After turn on power 60minutes Vco=+5V			+/-0.3	ppm	
<b>RF Output</b>							
Sine Wave	Level	L		+10		dBm	
	Load	RL			50	Ohm	
	Harmonics Level					-30	dBc
	Spurious					-100	dBc
<b>Power Supply</b>							
Voltage	Vcc		+11.4	+12	+12.6	V	
Power Consumption		Steady-state @+25°C			2.0	W	
		Warm-up			380	mA	
<b>Reference Voltage(PIN ="Reference Voltage")</b>							
Voltage			+9.5	+10	+10.5	V	
<b>Frequency Control</b>							
Control Voltage	Vc		0	+5	+10	V	Tuning slope positive
Tuning Range			+/-3			ppm	Ref. to frequency at nominal center voltage
Linearity			-10		+10	%	
<b>Frequency Stability</b>							
Vs. Temperature		-20°C to +70°C -40°C to +85°C Ref. to +25°C		+/-20 +/-50 +/-100		ppb	See ordering section
Vs. Supply Voltage Change		+/-5% change			+/-5	ppb	
Vs. Load Change		+/-10% change			+/-5	ppb	
Warm-up					+/-50	ppb	In 5 min @+25°C ref to 1hour
Short Term		Root Allan Variance for τ =1 sec			0.05	ppb	
G-Sensitivity (each axis)					1	ppb/g	
Aging	Per Day	After 30 days of operation			+/-5	ppb	
	Per Year				+/-500	ppb	
	10 Years				+/-2	ppm	
<b>Phase Noise</b>							
Phase Noise (Max.)			Option A	Option B	Option C	dBc/Hz	See ordering section
		@10Hz	-93	-97	-100		
		@100Hz	-125	-130	-135		
		@1KHz	-157	-160	-162		
		@10KHz	-173	-173	-170		
		@100KHz	-177	-175	-172		
	@1MHz	-180	-178	-175			



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Environmental		
Parameter	Reference Std.	Test Condition
Operating Temperature Range	-40°C to +85°C	Note1
Storage Temperature Range	-55°C to +105°C	
Humidity	MIL-STD-202, Method 103 Test Condition A,	95% RH @ +40C, non-condensing, 240 hours
Vibration (non-operating)	MIL-STD-202, Method 201,	0.06" Total p-p, 10 to 55 Hz
Shock (non-operating)	MIL-STD-202, Method 213, Test Condition J	30g, 11ms, half-sine

Note 1 : Output maintained over this temperature range. Other requirements of this specification may not be met when operating outside the temperature range of -20°C ~+70°C and -40°C ~+85°C.

## Ordering Information

Temp. (°C)	Stability	Phase Noise Option		
		A	B	C
-20°C ~+70°C	±100 ppb	OCXO2525S-100MHz-ULN-1	OCXO2525S-100MHz-ULN-2	OCXO2525S-100MHz-ULN-3
	±50 ppb	OCXO2525S-100MHz-ULN-4	OCXO2525S-100MHz-ULN-5	OCXO2525S-100MHz-ULN-6
	±20 ppb	OCXO2525S-100MHz-ULN-7	OCXO2525S-100MHz-ULN-8	OCXO2525S-100MHz-ULN-9
-40°C ~+85°C	±100 ppb	OCXO2525S-100MHz-ULN-10	OCXO2525S-100MHz-ULN-11	OCXO2525S-100MHz-ULN-12
	±500 ppb	OCXO2525S-100MHz-ULN-13	OCXO2525S-100MHz-ULN-14	OCXO2525S-100MHz-ULN-15