

### Dynamic Engineers Inc.

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

### **Features and Benefits**

Frequency range: 10MHz Supply voltage: 5.0V Steady current: 2.5W Max Output waveform: HCMOS Frequency stability vs. operating temperature: ±0.1ppb Aging: ±20ppb per year Phase noise@100KHz: -160dBc/Hz Operating temperature: -10°C to +70°C Size: 36x27x18mm

#### **Typical Applications**

SATCOM System Cellular Base Stations Radar Applications

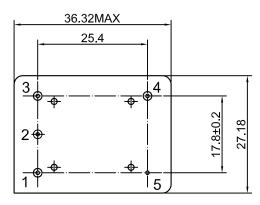
#### Description

DOCXO3627BM-10MHz-212 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 requiring holdover of < 10 us for 24 hours.

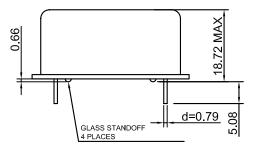
### Mechanical Drawing & Pin Connections

Drawing No: MD150083-5

Bottom View



Side View



Pin Connections:

Pin	Function			
	Control Voltage			
1	or			
	N.C.			
	Reference Voltage			
2	or			
	Oven Monitor			
	or			
	N.C.			
3	Supply Voltage			
4	RF Output			
5	Ground			

Unit in mm 1mm = 0.0394 inches

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Double Oven Controlled Crystal Oscillator

### **Specifications**

Oscillator Specification	Sym	Condition	Min	Value	Max	Unit	Note
Operational Frequency	Fnom		Min.	Тур. 10	Max.	MHz	
RF Output							
Signal Waveform				HCM	10S		
Load	R∟			15pf			
H-Level Voltage	V <sub>H</sub>		4.4			V	
L- Level Voltage	VL				0.3	V	
Duty Cycle		@+2.5V	45	50	55	%	
Spurious					-60	dBc	
Power Supply							1
Reference Voltage			2.716	2.8	2.884	V	
Reference Voltage Load			9			kohm	
Reference Voltage Temp Stability			-0.5		+0.5	mV	
Supply Voltage	Vs		4.75	5.0	5.25	V	
	•3	Steady state		0.0			
Power Consumption		@+25°C			2.5	W	power
		Warm-up@ turn on			1.75	A	current
Frequency Adjustment Range					1.10		
		Vco@Min Voltage	-0.25		-0.15	ppm	Ref to freq. at
Electronic Frequency Control		-					nominal center
(EFC)		Vco@Max Voltage	+0.15		+0.25	ppm	voltage
EFC voltage	Vc		0		2.8	V	
Center Voltage		When not connected, Vco input is internally held at this voltage		1.4		V	
Linearity			-10		+10	%	
Input Impedance			50			kohm	
EFC Slope				positive			
Frequency Stability							
Versus Operating		-10°C to +70°C			.0.1	nnh	
Temperature Range		-10 C 10 +70 C			±0.1	ppb	
Initial Tolerance @+25°C after turn on power 30±5 min		≤ 90 days following date code; VCO Input at Center Voltage ±0.001V	-0.1		+0.1	ppm	
Versus supply voltage	Vs	±5% change	-0.1		+0.1	ppb	
Warm-up		In 5 min@+25±1°C Refer to 1 hour	-20		+20	ppb	
Retrace		After 60 minutes from turn on, following 24 hours minimum on time, and 24 hours maximum off time	-5		+5	ppb	At constant temperature and voltage. Referenced to frequency at off time
Aging Per Day					±0.1	ppb	
Aging 1 <sup>st</sup> Year		After 30days			±20	ppb	
Aging 10 <sup>st</sup> Year					±100	ppb	
Allan Variance		1s			0.005	ppb	
		10s			0.01	ppb	
		1Hz			-90	dBc	
		10Hz			-120	dBc	
		100Hz			-135	dBc	
SSB Phase noise		1kHz			-145	dBc	
				1			1
		10kHz			-155	dBc	

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Environmental, Mechanical Conditions					
Storage temperature range	-40°C to +85°C				
Shock (non-operating)	Per MIL-STD-202, Method 213, test condition J; 30G, half sine,11ms				
Vibration (non-operating)	Per MIL-STD-202, Method 201;0.06" total p-p,10 to 55Hz				