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

DOCXO3627BM-10MHz-222
Double Oven Controlled Crystal Oscillator

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: -40°C to +85°C
Size: 36x27x18mm

Typical Applications

SATCOM System
Cellular Base Stations
Radar Applications

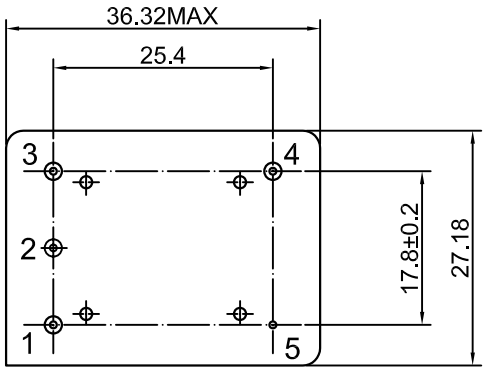
Description

DOCXO3627BM-10MHz-222 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.

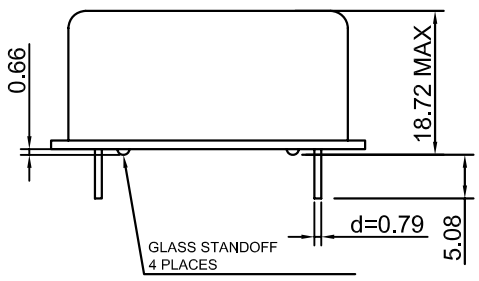
Mechanical Drawing & Pin Connections

Drawing No: MD150083-5

Bottom View



Side View



Pin Connections:

Pin	Function
1	Control Voltage or N.C.
2	Reference Voltage 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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Specifications

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency	F_{nom}			10		MHz	
RF Output							
Signal Waveform				HCMOS			
Load	R_L			15pf			
H-Level Voltage	V_H		4.4			V	
L- Level Voltage	V_L				0.3	V	
Duty Cycle		@+2.5V	45	50	55	%	
Spurious					-60	dBc	
Power Supply							
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	V_S		4.75	5.0	5.25	V	
Power Consumption		Steady state @+25°C			2.5	W	power
		Warm-up@ turn on			1.75	A	current
Frequency Adjustment Range							
Electronic Frequency Control (EFC)		Vco@Min Voltage	-0.25		-0.15	ppm	Ref to freq at nominal center voltage
		Vco@Max Voltage	+0.15		+0.25	ppm	
EFC voltage	V_c		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 Temperature Range		-40°C to +85°C			±0.1	ppb	
Initial Tolerance @+25°C after turn on 30±5 min		≤ 90 days following date code; VCO Input at Center Voltage ±0.001V	-0.1		+0.1	ppm	
Versus supply voltage	V_S	±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		After 30days			±0.1	ppb	
Aging 1st Year					±20	ppb	
Aging 10st Year					±100	ppb	
Allan Variance		1s			0.005	ppb	
		10s			0.01	ppb	
SSB Phase noise		1Hz			-90	dBc	
		10Hz			-120	dBc	
		100Hz			-135	dBc	
		1kHz			-145	dBc	
		10kHz			-155	dBc	
		100kHz			-160	dBc	

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