



Features and Benefits

Frequency range: 10MHz
Supply voltage: 5.0V
Steady current: 2.5W Max.
Output waveform: HCMOS
Frequency stability vs. operating temperature: ± 0.1 ppb
Aging: ± 40 ppb 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

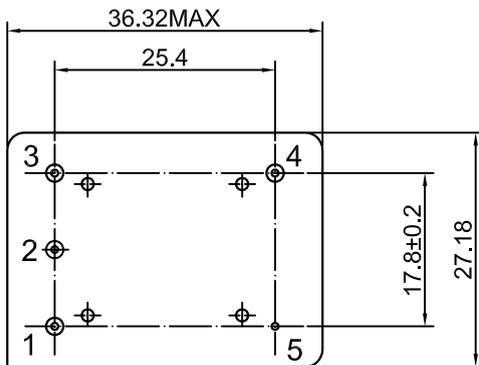
Description

DOCXO3627BM-10MHz-223 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



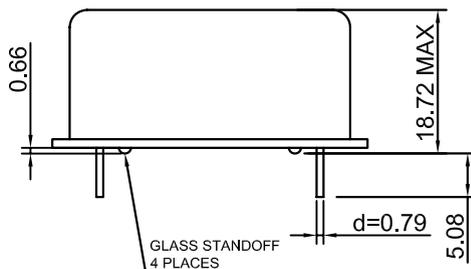
Pin Connections:

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

Side View





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)		V _{co} @Min Voltage	-0.25		-0.15	ppm	Ref to freq at nominal center voltage
		V _{co} @Max Voltage	+0.15		+0.25	ppm	
EFC voltage	V _c		0		2.8	V	
Center Voltage		When not connected, V _{co} 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			±0.2	ppb	
Aging 1 st Year					±40	ppb	
Aging 10 st Year					±200	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	



Dynamic Engineers Inc.

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

DOCXO3627BM-10MHz-223

Double Oven Controlled Crystal Oscillator

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, 11m•
Vibration (non-operating)	Per MIL-STD-202, Method 201; 0.06" total p-p, 10 to 55Hz