



Dynamic Engineers Inc.

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

DOCXO3627S-10MHz_series

Double Oven Controlled Crystal Oscillator

Features and Benefits

10MHz Frequency
3.3V Supply voltage
HCMOS Output waveform
 ± 0.5 ppb Stability Vs -30C --+70C
36x27mm Size
-148dBc/Hz @1KHz phase noise value

Typical Applications

SATCOM System
Cellular Base Stations
Radar Applications

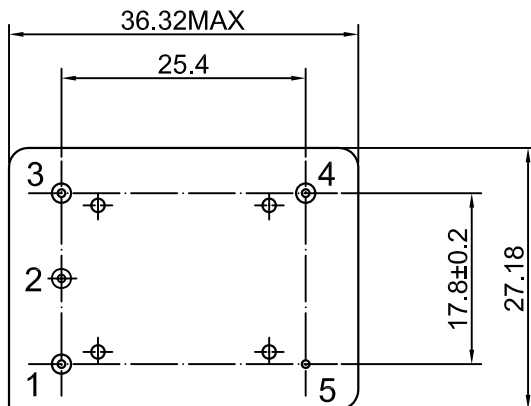
Description

DOCXO3627S-10MHz_series are 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.

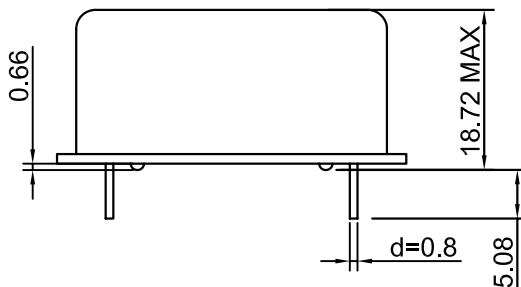
Mechanical Drawing & Pin Connections

Drawing No: MD1500, ' -1

Bottom View



Side View



Pin Connections:

Pin	Symbol	Function
1	V _c	Control Voltage(EFC) or N.C.
2	V _{REF}	Reference Voltage or Oven Monitor or N.C.
3	V _s	Supply Voltage
4	RF OUT	RF Output
5	GND	Ground

Unit in mm

1mm = 0.0394 inches



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		2.4			V	
L- Level Voltage	V _L				0.3	V	
Duty Cycle		@+1.65V	45	50	55	%	
Spurious					-60	dBc	
Power Supply							
Reference Voltage			2.66	2.8	2.94	V	
Reference Voltage Load			9			kohm	
Reference Voltage Temp Stability			-0.0005		+0.0005	V	
Supply Voltage	V _S		3.135	3.3	3.465	V	
Warm-up Time	T _{up}	@ +25 ±1°C, referenced to 1 hour		5		min	Under ±20ppb
Power Consumption		Steady state @+25°C			2.5	W	power
		Warm-up			2.5	A	current
Frequency Adjustment Range							
Electronic Frequency Control (EFC)		V _{co} @Min Voltage	-0.8		-0.35	ppm	
		V _{co} @Max Voltage	+0.35		+0.8	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		-30°C to +70°C		±0.5		ppb	See ordering information
Initial Tolerance @+25°C after turn on 30±5 min		V _C @ center voltage± 0.001V	-0.1		+0.1	ppm	
Versus supply voltage	V _S	±5%change	-0.2		+0.2	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	See ordering information
Aging 1 st Year				±20		ppb	See ordering information
Aging 10 st Year				±0.1		ppm	See ordering information



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Allan Variance		1s			0.007	ppb	
		10s			0.01	ppb	
SSB Phase noise		1Hz			-90	dBc	
		10Hz			-120	dBc	
		100Hz			-138	dBc	
		1kHz			-148	dBc	

Ordering Information

DOCXO3627S	-	10MHz	-	x	x	x
Group				01	02	03

For example, DOCXO3627S-10MHz-1-1-2 denotes the OCXO has the following specifications:

Temperature Range: -30°C to +70°C
Stability Over Temperature: ±0.5ppb
Aging per day / per year/10year: ±0.3ppb/±50ppb/±0.2ppm

01	Temperature Range
Code	Specification
1	-30°C to +70°C
2	0°C to +70°C

02	Frequency Stability
Code	Specification
1	±0.5 ppb
2	±0.2 ppb

03	Aging per day/per year/10year
Code	Specification
1	±0.1ppb/±20ppb/±0.1ppm
2	±0.3ppb/±50ppb/±0.2ppm