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

DOCXO3628S-10MHz_series
Double Oven Controlled Crystal Oscillator

Features and Benefits

10MHz Frequency
5V Supply voltage
HCMOS Output waveform
±0.5ppb Stability Vs -30C --+70C
36x27mm Size
-150dBc/Hz @1KHz phase noise value

Typical Applications

SATCOM System
Cellular Base Stations
Radar Applications

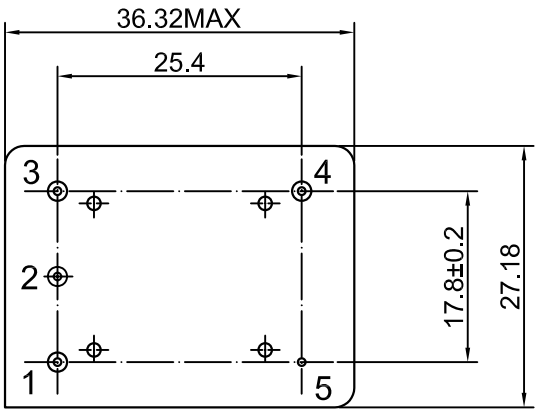
Description

DOCXO3628S-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.

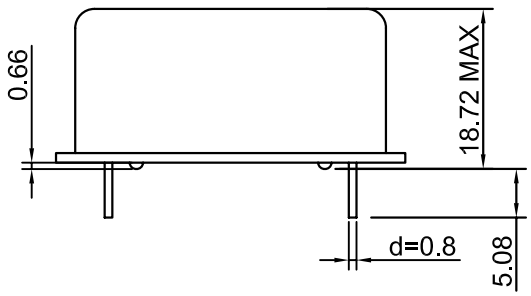
Mechanical Drawing & Pin Connections

Drawing No: **MD150083-1**

Bottom View



Side View



Pin Connections:

Pin	Symbol	Function
1	Vc	Control Voltage(EFC) or N.C.
2	VREF	Reference Voltage or Oven Monitor or N.C.
3	Vs	Supply Voltage
4	RF OUT	RF Output
5	GND	Ground

Unit in mm
1mm = 0.0394 inches

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

DOCXO3628S-10MHz_series
Double Oven Controlled Crystal Oscillator

Specifications

Oscillator Specification	Sym	Condition	Value Min.	Value Typ.	Value Max.	Unit	Note
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			2.66	2.8	2.94	V	
Reference Voltage Load			9			kohm	
Reference Voltage Temp Stability			-0.0005		+0.0005	V	
Supply Voltage	V_S		4.75	5.0	5.25	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			1.75	A	current
Frequency Adjustment Range							
Electronic Frequency Control (EFC)		Vco @Min Voltage	-0.8		-0.35	ppm	
		Vco @Max Voltage	+0.35		+0.8	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		-30C --+70C		±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				±0.1		ppb	See ordering information
Aging 1st Year				±20		ppb	See ordering information
Aging 10st Year				±0.1		ppm	See ordering information
Allan Variance		1s			0.007	ppb	
		10s			0.01	ppb	
SSB Phase noise		1Hz			-90	dBc	
		10Hz			-120	dBc	
		100Hz			-140	dBc	
		1kHz			-150	dBc	
		10kHz			-155	dBc	
		100kHz			-160	dBc	
Environmental,Mechanical Conditions							
Operating temperature range	-30°C to 70°C (See ordering information)						
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						

Ordering Information

DOCXO3628S	-	10MHz	-	x	x	x
Group				01	02	03

For example, DOCXO3628S-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	-40°C to +85°C
3	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