



## Features and Benefits

10-220MHz Frequency Range  
2.5V, 3.3V Supply voltage  
LVDS Output waveform  
Various Temperature Stability Available  
7x5x1.8mm Size  
-116dBc/Hz @1KHz phase noise value

## Typical Applications

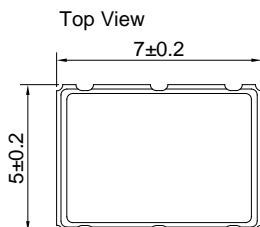
SatCom  
Test equipment  
Network clock  
Base station

## Description

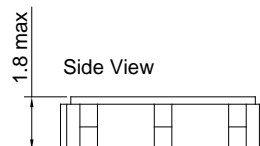
The XO7500R series are designed for applications where exceptional frequency stability and timing is required. It has both excellent temperature performance and short-term stability. These characteristics make it an excellent choice for timing applications.

## Mechanical Drawing & Pin Connections

Drawing No: MD150071-1



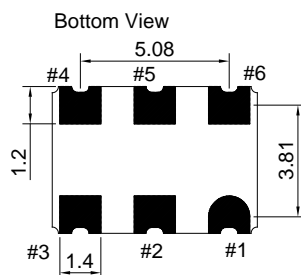
Pin 1 Mark



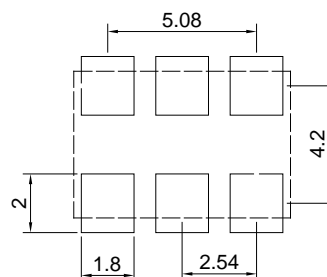
PIN	Function
PAD #1	Tri-State
PAD #2	N/C
PAD #3	GND
PAD #4	Output
PAD #5	Complimentary
PAD #6	Supply Voltage

Unit in mm

1mm = 0.0394 inches



Recommended Soldering Pattern



**Specifications**

Oscillator Specification	Sym	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Frequency Range	F <sub>nom</sub>	+2.5V supply	13.5		220	MHz	
		+3.3V supply	10		220	MHz	
RF Output							
Signal Waveform			LVDS				
Level		Logic " High " , " 1 "		1.4	1.6	V	RL = 100 Ω
		Logic " Low " , " 0 "	0.9	1.1		V	
Load		between output and complimentary output	100			Ω	
Duty Cycle		measured at Vdd - 1.25V	50% ± 5%				
Output Voltage Swing			250	350	450	mV	RL = 100 Ω
Rise Time / Fall Time		20%↔80%		0.2	0.4	ns	
Tri - State Function.( on pad No. 1)		No Connection	Differential LVDS and complimentary LVDS outputs				
		Disable	Both outputs are disabled ( high impedance ) when the Tri-state pad taken below 0.45*Vcc referenced to ground ( threshold ) Oscillator is always On . Only buffer stage is disabled . Disable current : 50 uA max. ( at 0.0V ) , Disable time : 10 ns (max.)				
		Enable	At disabled mode , both outputs are enabled when Tri-state pad is taken above 0.45*Vcc referenced to ground ( threshold ) ; Enable time : 10ns + one period of the output frequency (max.)				
Power Supply							
Current consumption		15 pF load		16	27	mA	
Start-up Time				5	10	ms	
Frequency Stability							
Versus Operating Temperature Range						ppm	See ordering information
Aging 1 <sup>st</sup> Year		At 25°C			±3	ppm	
Aging 1 <sup>st</sup> Year thereafter		At 25°C			±2	ppm	
Phase noise		10Hz(62.5MHz)		-50		dBc/Hz	
		(156.25MHz)		-50		dBc/Hz	
		100Hz(62.5MHz)		-82		dBc/Hz	
		(156.25MHz)		-80		dBc/Hz	
		1KHz(62.5MHz)		-116		dBc/Hz	
		(156.25MHz)		-115		dBc/Hz	
		10KHz(62.5MHz)		-138		dBc/Hz	
		(156.25MHz)		-135		dBc/Hz	
		100KHz(62.5MHz)		-144		dBc/Hz	
		(156.25MHz)		-142		dBc/Hz	
		1MHz(62.5MHz)		-149		dBc/Hz	
		(156.25MHz)		-147		dBc/Hz	
Integrated Phase Jitter ( 12 KHz to 20 MHz )		For 156.250 MHz	0.2		0.5	ps	
Environmental,Mechanical Conditions							
Storage Temperature		-55°C to + 150°C					



## Dynamic Engineers Inc.

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

### XO7500R series

Low phase jitter XO

## Ordering Information

XO7500R	-	20MHz	-	x	x	x
Group				01	02	03

For example, XO7500R-20MHz-1-1-1 denotes the XO has the following specifications:

Temperature Range: -10°C to +70°C  
Stability Over Temperature: ±25ppm  
Supply Voltage: 2.5V  
Frequency: 20MHz

option 01	Temperature Range	option02	Frequency Stability (If non-standard, please contact DEI)
Code	Specification	Code	Specification
1	-10°C to +70°C	1	±25ppm
2	-40°C to +85°C	2	±50ppm
		3	±100ppm

option 03	Supply Voltage
Code	Specification
1	2.5V
2	3.3V