



## Features and Benefits

10.0 MHz to 220 MHz operating frequency range for 3.3V supply  
16 mA typical  
Less than +/- 25 ppm over -40°C to +85°C  
LVDS outputs  
7.0 x 5.0 x 1.8 mm smd  
3.3V supply voltage  
200 fs typical integrated phase jitter ( 12KHz to 20 MHz )

## Typical Applications

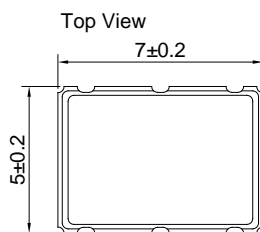
Telecom Networks  
Data Communications

## Description

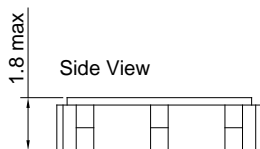
The XO7500R series with LVDS outputs utilizes a fundamental crystal design that has no internal multiplication circuits to deliver the lowest possible phase jitter.

## Mechanical Drawing & Pin Connections

Drawing No: MD150071-1

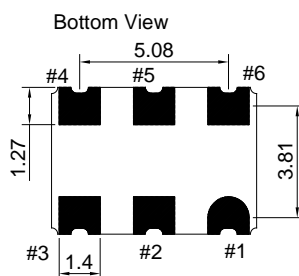


Pin 1 Mark

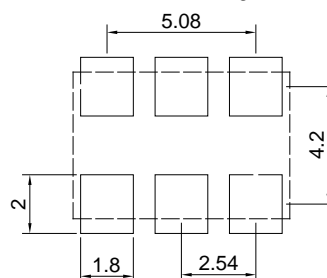


PIN	Function
PAD #1	Tri-State
PAD #2	N/C
PAD #3	GND
PAD #4	Output
PAD #5	Complimentary
PAD #6	Supply Voltage

Unit : mm



Recommended Soldering Pattern





## Specifications

Oscillator Specification		Sym	Condition	Value			Unit	Note
				Min.	Typ.	Max.		
Nominal Frequency		F <sub>nom</sub>			120		MHz	
Output Wave Form				LVDS				
Output Voltage Level "1"			RL=100 ohm	1.4		1.6	V	
Output Voltage Level "0"			RL=100 ohm	0.9		1.1	V	
Output Load			Between output and complimentary output		100		Ohm	
Duty Cycle				45	50	55	%	
Rise and Fall Times			20%<-->80% of the PECL wave form		0.2	0.4	nSec	
Start Time					5	10	mSec	
Output Voltage Swing			RL=100 ohm	250	350	450	mV	
Tri-State Function	No Connection		Differential LVDS and compliantary LVDS outputs					
	Disable		Both outputs are disabled (high impedance) when the Tri-state pad taken below 0.45*V <sub>CC</sub> referenced to ground oscillator is always on. Only buffer stage is disabled. Disable current: 50uA max. (at 0V), Disable time: 10ns (Max.)					
	Enable		At disabled mode, both outputs are enabled when Tri-state pas is taken above 0.45*V <sub>CC</sub> referenced to ground; Enable time: 10ns+ one period of the output frequency(max.)					
Power Supply								
Supply Voltage		V <sub>CC</sub>		3.135	3.3	3.465	V	
Supply Current			15pF load		16	27	mA	
Frequency Stability								
Vs. Temperature			From -40°C to +85°C			+/-25	ppm	
Integrated Phase Jitter			12KHz to 20MHz		0.2	0.5	ps	
Aging			First year			+/-3	ppm	
			Per year thereafter			+/-2	ppm	
Phase Noise								
Phase Noise			@10Hz		-50		dBc/Hz	
			@100Hz		-80		dBc/Hz	
			@1KHz		-115		dBc/Hz	
			@10KHz		-135		dBc/Hz	
			@100KHz		-142		dBc/Hz	
			@1MHz		-147		dBc/Hz	
			@10MHz		-152		dBc/Hz	
Environmental Conditions								
Parameter		Reference Std.			Test Condition			
Operating Temperature range		-40°C to +85°C						
Storage Temperature range		-55°C to +150°C						