



# PLETRONICS OSI5xxx-xx.xxM OCXO Oscillator



OSI5 Series  
36.3 x 27.2 x 12.7 mm  
5 Pin Metal Package

## Features

- Pletronics' OXO Series Ovenized Quartz Crystal High Precision Square Wave Generator
- LVTTTL Output
- 5.0V nominal Supply Voltage
- 5.0MHz - 40MHz Frequency Range
- Voltage control option available

## Applications

SONET / SDH / DWDM  
Test & Measurement  
Telecom Transmission & Switching Equipment  
Base Stations / Picocell  
Wireless Communication Equipment

## Electrical Characteristics

Parameter	Min	Typ	Max	Unit	Condition
Frequency	5	-	40	MHz	
Frequency Stability vs Temperature	±5	-	±10	ppb	±3ppb available over temp range 0 to 70°C
Frequency Stability vs Supply	-0.5	-	+0.5	ppb	±5% voltage change
Warm-up	-10	-	+10	ppb	In 10 minutes @ +25°C, referenced to 1 hour
Aging	-0.5	-	+0.5	ppb	per day at time of shipment
	-50	-	+50	ppb	per year
	-0.3	-	+0.3	ppm	10 years
Operating Temperature Range	-40	-	+85	°C	
Supply Voltage <sup>1</sup> V <sub>CC</sub>	4.75	5.0	5.25	V	3.3V input voltage available
Current	-	-	850	mA	@turn on
Steady State	-	-	1.3	W	@ 25°C
Spurious	-	-	-60	dBc	
Phase Noise					
	10 Hz	-120			
	100 Hz	-135			
	1 kHz	-145			
	10 kHz	-150			
				dBc/Hz	
Storage Temperature Range	-55	-	+125	°C	
Vcontrol Range	0	2.5	5.0	V	
Pullability	±0.5	-	-	ppm	Slope positive
Input Impedance	100	-	-	kΩ	

## HCMOS

Parameter	Min	Typ	Max	Unit	Condition
Output Waveform	LVTTTL				Sinewave output is available
"1" Level	2.4	-	-	V	
"0" Level	-	-	0.4	V	
Load	-	15	-	pF	
Duty Cycle	45	50	55	%	@+1.4V

Note: <sup>1</sup> Place a 10nF power supply bypass capacitor next to device for correct operation



# PLETRONICS OS15xxx-xx.xxM OCXO Oscillator

## Device Marking

PLE  
OS15xxx  
xx.xxM  
YMDz  
S/N: xxx

PLE = Pletronics  
OS15xxx = Model number/Part number\*  
xx.xxM = Frequency (M = MHz)  
YMD = Date code (Year-Month-Day: See Table below)  
z = Internal Factory Code  
S/N: xxx = Serial number

\* A unique number is assigned for your exact specifications.  
Specifications such as part number, frequency stability, supply voltage and operating temperature range, etc. are not identified from marking.  
External packaging labels and packing list will correctly identify the ordered Pletronics part number.

Codes for Date Code YMD (Year Month Day)





Code	9	0	1	2	3	Code	A	B	C	D	E	F	G	H	J	K	L	M
Year	2019	2020	2021	2022	2023	Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

Code	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	G	H	J	K	L	M	N	P	R	T	U	V	W	X	Y	Z
Day	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

## Package Labeling

P/N Label is 1" x 2.6" (25.4mm x 66.7mm)  
Font is Courier New  
Bar code is 39-Full ASCII

RoHS Label is 1" x 2.6" (25.4mm x 66.7mm)  
Font is Arial

P/N:   
OS15001-10.0M  
Customer P/N:   
12345678  
Qty:  1000 D/C  9DW  
MSL: 1

RoHS Compliant  
2nd LvL Interconnect  
Category=e3  
Max Safe Temp=280C for 15s (Wave solder only)

**Pletronics Inc. certifies this device is in accordance with the RoHS 2 (2011/65/EU) and WEEE (2002/96/EC) directives.**  
Pletronics Inc. guarantees the device does not contain the following: Cadmium, Hexavalent Chromium, Lead, Mercury, PBB's, PBDE's  
Moisture Sensitivity Level: 1 As defined in J-STD-020D  
Second Level Interconnect code: e3

## Environmental / ESD Ratings

Reliability: Environmental Compliance

Parameter	Ref Standard	Condition
Solderability	MIL-STD-202, Method 208	
Mechanical Shock	MIL-STD-202, Method 213 Test Cond J	30g, 11ms, half-sine
Vibration	MIL-STD-202, Method 201	0.06" Total p-p, 10 to 55 Hz
Thermal Shock	MIL-STD=202, Method 107 Test Cond B	5 cycles -65 to +125 Deg C

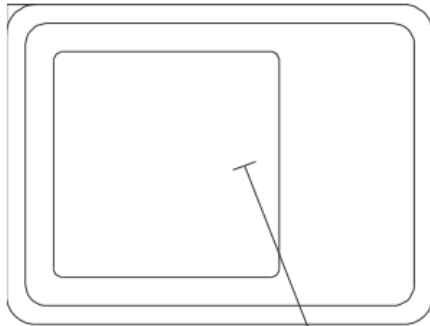
Model	Min Voltage
Human Body Model	2000V
Charged Device Model	500V
Machine Model	200V



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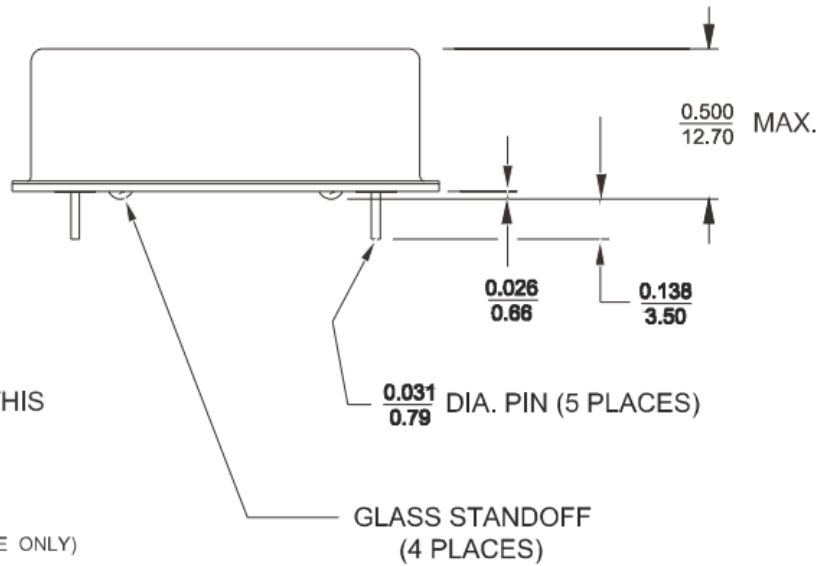
## Mechanical Dimensions

[TOP VIEW]



MARKING THIS SURFACE

[SIDE VIEW]



GLASS STANDOFF  
(4 PLACES)

**TOLERANCES**

UNLESS OTHERWISE SPECIFIED:

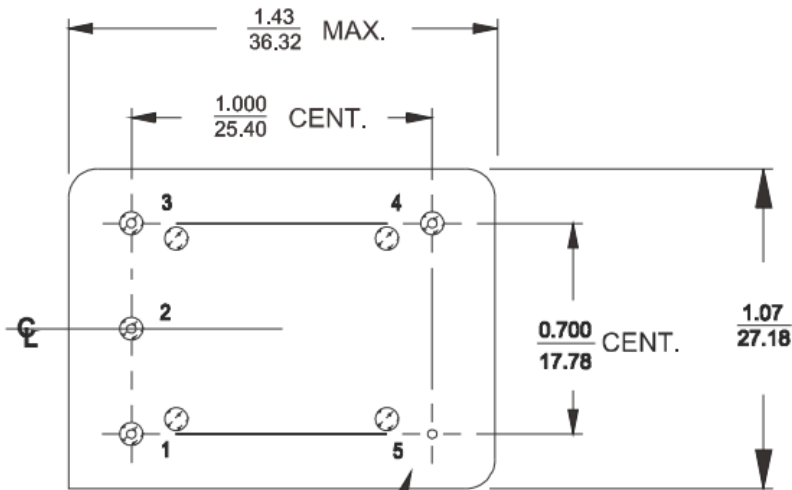
ANGLES: ±1 DEGREE

FRACTIONS: ±1/32 INCH

DECIMALS: .XX±.015, .XXX±.010 INCH

$\frac{\text{INCH}}{\text{mm}}$  (REFERENCE ONLY)

[BOTTOM VIEW]



Numbers for reference only.  
(Not stamped on unit)

PIN CONNECTIONS	
PIN	FUNCTION
1 (See Note 1)	VCO INPUT or NOT CONNECTED
2 (See Note 1)	REFERENCE VOLTAGE or NOT CONNECTED
3	+VDC
4	R. F. OUTPUT
5	0 VOLTS & CASE

**Note:**

1. If the specification does not specify parameters for either PIN1 or PIN2 then that respective PIN is NOT internally CONNECTED.

For Optimum Jitter Performance, Pletronics recommends:

- A ground plane under the device
- Do not route large transient signals (both current and voltage) under the device
- Do not place near a large magnetic field such as a high frequency switching power supply
- Do not place near piezoelectric buzzers or mechanical fans
- Minimize air flow across the device



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