



# PLETRONICS OSI5007-10.0M OCXO Oscillator



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

## Features

- Pletronics' OCXO Series Ovenized Quartz Crystal High Precision Oscillator
- LVTTTL Output
- 5.0V nominal Supply Voltage
- 10.0MHz Nominal Frequency

## 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	-	10	-	MHz	
Initial Calibration			±0.1	ppm	After turn on 30 ±5 minutes @25°C±1, ≤90 days after date code, V <sub>control</sub> = 2V ± 0.001V
Frequency Stability vs Temperature	-	-	±3	ppb	-40 to +85°C
Frequency Stability vs Supply	-	-	±0.5	ppb	±5% voltage change
Frequency Stability vs Load	-	-	±0.5	ppb	±5% load change
Warm-up	-	-	+10	ppb	In 10 minutes @ +25°C, referenced to 1 hour
Short Term	-	-	0.05	ppb/s	root Allan variance
Aging	-	-	±3	ppb	per day at time of shipment
	-	-	±3	ppb	Per day, after 30 days
	-	-	±50	ppb	per year
	-	-	±0.3	ppm	10 years
Operating Temperature Range	-40	-	+85	°C	Ref to 25°C
Supply Voltage <sup>1</sup> V <sub>CC</sub>	4.75	5	5.25	V	
Current	-	-	800	mA	@turn on
Steady State	-	-	1.3	W	@ 25°C
Pullability	±0.5	-	-	ppm	
Control Voltage V <sub>c</sub>	0	2	4	V	
Linearity	-	-	±10	%	
Input Impedance V <sub>c</sub> pin	100	-	-	kΩ	
Phase Noise	1 Hz	-	-95	-90	dBc/Hz
	10 Hz	-	-125	-120	
	100 Hz	-	-140	-135	
	1 kHz	-	-148	-145	
	10 kHz	-	-156	-155	
	100 kHz	-	-168	-155	
Storage Temperature Range	-55	-	+105	°C	

## Output

Parameter	Min	Typ	Max	Unit	Condition
Output Waveform	LVTTTL				
Level	V <sub>oh</sub>	2.6	3.3	-	V
	V <sub>ol</sub>	-	-	0.4	
Duty Cycle	45	-	55	%	@ 1.65V
Rise/Fall Time	-	-	6	ns	10% to 90%V <sub>CC</sub>
Spurious	-	-	-70	dBc	

## Reference Voltage (Pin 2)

Parameter	Min	Typ	Max	Unit	Condition
Voltage	+3.8	+4	+4.2	V	Load = 9kΩ min

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

Product information is current as of publication date. The product conforms to specifications per the terms of the Pletronics standard warranty. **Aug 17, 2022 Rev. A**  
Production processing does not necessarily include testing of all parameters.



# PLETRONICS OSI5007-10.0M OCXO Oscillator

## Device Marking

PLE  
OSI5007  
10.0M  
YMDz  
S/N: xxx

PLE = Pletronics  
OSI5007 = Model number/Part number\*  
10.0M = 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	2	3	4	5	6	Code	A	B	C	D	E	F	G	H	J	K	L	M
Year	2022	2023	2024	2025	2026	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:   
OSI5007-10.0M  
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 (by exemption) and REACH directives.**

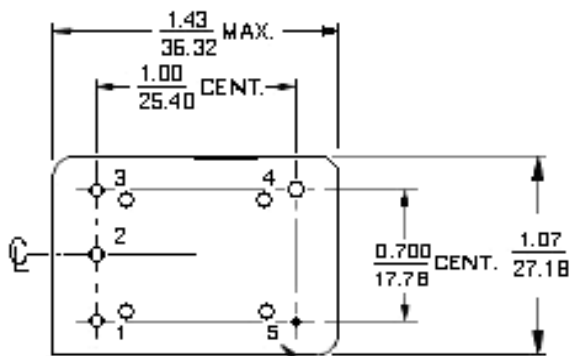
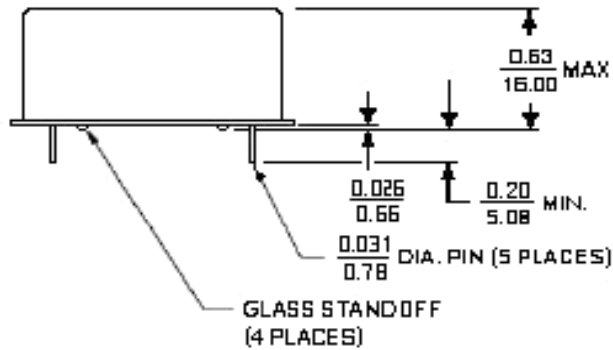
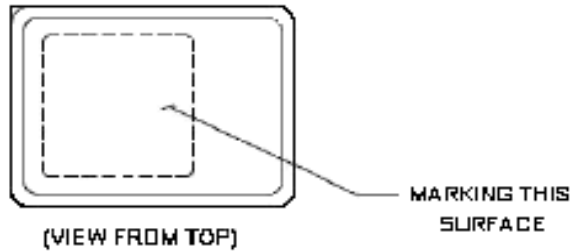
Pletronics Inc. guarantees the device does not contain the following: Cadmium, Hexavalent Chromium, Mercury, PBB's, PBDE's  
Moisture Sensitivity Level: 1 As defined in J-STD-020D  
Second Level Interconnect code: e3

## Environmental

Reliability: Environmental

Parameter	Ref Standard	Condition
Humidity	MIL-STD-202, Method 103, Test Condition A	95% RH@ +40°C, non-condensing, 240 hours
Mechanical Shock (non-operating)	MIL-STD-202, Method 213 Test Cond J	30g, 11ms, half-sine
Vibration (non--operating)	MIL-STD-202, Method 201	0.06" Total p-p, 10 to 55 Hz

## Mechanical Dimensions



(VIEW FROM BOTTOM) NUMBERS FOR REFERENCE ONLY (NOT STAMPED ON UNIT)

PIN CONNECTIONS	
PIN	FUNCTION
1	V <sub>c</sub> IN
2	Reference Voltage
3	+V <sub>DC</sub>
4	R.F. Output
5	0 Volts and Case

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



## Important Notice

Pletronics Incorporated (PLE) reserves the right to make corrections, improvements, modifications and other changes to this product at anytime. PLE reserves the right to discontinue any product or service without notice. Customers are responsible for obtaining the latest relevant information before placing orders and should verify that such information is current and complete. All products are sold subject to PLE's terms and conditions of sale supplied at the time of order acknowledgment.

PLE warrants performance of this product to the specifications applicable at the time of sale in accordance with PLE's limited warranty. Testing and other quality control techniques are used to the extent PLE deems necessary to support this warranty. Except where mandated by specific contractual documents, testing of all parameters of each product is not necessarily performed.

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