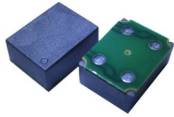




# PLETRONICS OSN4001-10.0M OCXO Oscillator



OSN4 Series  
9.7 x 7.5 x 4.1 mm  
4 Pad SMD Package

## Features

- Pletronics' OSN4 Series Ovenized Quartz Crystal High Precision Square Wave Generator
- HCMOS Output
- 3.3V nominal Supply Voltage
- 10.0MHz Nominal Frequency

## Applications

SONET / SDH / DWDM  
Test & Measurement  
Telecom Transmission & Switching Equipment  
Base Stations / Picocell  
Wireless Communication Equipment  
Packet Timing Protocol (e.g. IEEE-1588)

## Electrical Characteristics

Parameter	Min	Typ	Max	Unit	Condition
Frequency	-	10	-	MHz	
Frequency Stability vs Temperature	-20	-	+20	ppb	
Frequency Stability vs Supply	-5	-	+5	ppb	±5% voltage change
Warm-up	-0.1	-	+0.1	ppm	In 5 minutes @ +25°C, referenced to 1 hour
Aging	-3	-	+3	ppb	per day after 30 days
	-0.6	-	+0.6	ppm	per year
	-3.0	-	+3.0	ppm	10 years
Operating Temperature Range	-40	-	+85	°C	
Supply Voltage <sup>1</sup> V <sub>CC</sub>	3.135	3.3	3.465	V	
Current	-	-	350	mA	@turn on
Steady State	-	0.3	0.4	W	@ 25°C
Spurious	-	-	-60	dBc	
Phase Noise					
	10 Hz	-98			
	100 Hz	-126			
	1 kHz	-145		dBc/Hz	
	10 kHz	-152			
Storage Temperature Range	-55	-	+125	°C	

## HCMOS

Parameter	Min	Typ	Max	Unit	Condition
Output Waveform	Rectangular				
"1" Level	2.4	-	-	V	
"0" Level	-	-	0.4	V	
Load	-	15	-	pF	
Duty Cycle	45	50	55	%	@+1.65V

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



# PLETRONICS OSN4001-10.0M OCXO Oscillator

## Device Marking

PLE  
OSN4001  
10.0M  
YMDz  
S/N: xxx

PLE = Pletronics  
OSN4001 = 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

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)

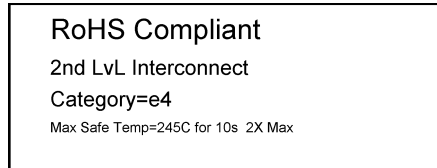
Code	9	0	1	2	3	Code	A	B	C	D	E	F	G	H	J	K	L	M
Year	2019	2020	2021	2022	2023	Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

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



**Pletronics Inc. certifies this device is in accordance with the RoHS 3 and WEEE 2 directives.**

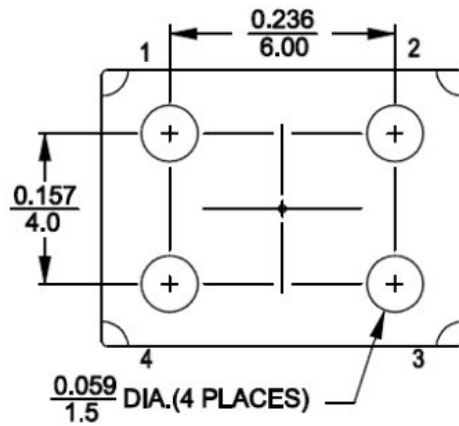
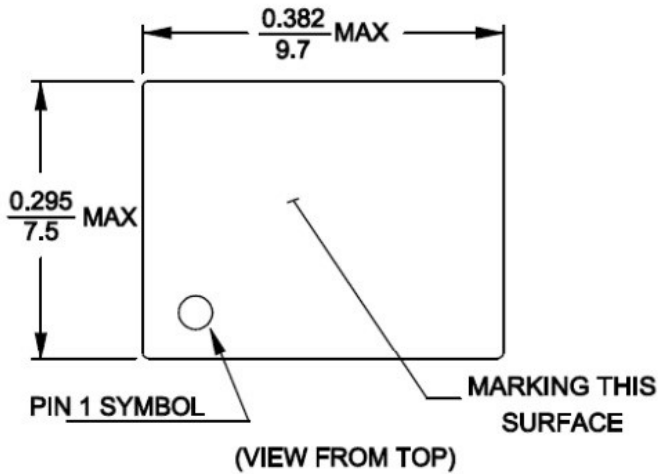
Pletronics Inc. guarantees the device does not contain the following: Cadmium, Hexavalent Chromium, Lead, Mercury, PBB's, PBDE's  
Moisture Sensitivity Level: 1 As defined in J-STD-020D  
Second Level Interconnect code: e4

## Environmental / ESD Ratings

Reliability: Environmental Compliance

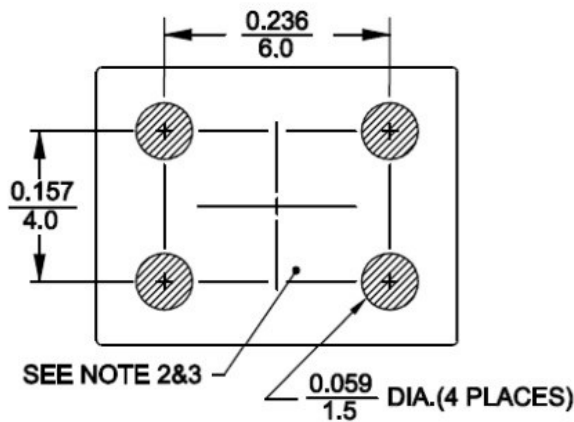
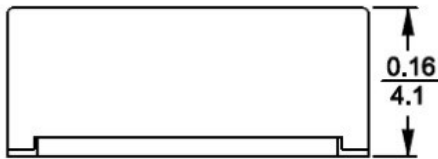
Parameter	Ref Standard	Condition
Solderability	MIL-STD-202, Method 208	
Mechanical Shock	MIL-STD-202, Method 213 Test Cond J	30g, 11ms, half-sine
Vibration	MIL-STD-202, Method 201	0.06" Total p-p, 10 to 55 Hz
Thermal Shock	MIL-STD=202, Method 107 Test Cond B	5 cycles -65 to +125 Deg C
Model	Min Voltage	
Human Body Model	2000V	
Charged Device Model	500V	
Machine Model	200V	

### Mechanical Dimensions



**Numbers for reference only.  
(Not stamped on unit)**

(VIEW FROM BOTTOM)



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

### RECOMMENDED SOLDER PAD LAYOUT

**Note 1.** If the specification does not specify parameters for PIN 1 then PIN1 must remain unconnected.

**Note 2.** Copper in this area should be kept to a minimum to reduce heat loss from OCXO.

**Note 3.** Bottom side reflow is forbidden unless specified in the oscillator specification.

**Note 4.** Aqueous cleaning is FORBIDDEN

**Note 5.** Test condition : A 0.1uF and 10uF X7R decoupling capacitor is required close to the unit.

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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