PLETRONICS OLA5001-100.0M
OCXO Oscillator

OLA5 Series
25.4 x 25.4 x 12.7 mm
5 Pin Metal Package

Features

- Ultra Low Phase Noise & Low G-Sensitivity
- Hermetically Sealed Package
- 5.0V nominal Supply Voltage
- 100.0 MHz Nominal Frequency
- Low Power Consumption, Fast Warm Up Time

Applications

Instrument Reference
Microwave Communication
Clock Reference for Microwave Signal Source
Test & Measurement
Telecom Systems
Radar Systems
Medical (MRT)

Electrical Characteristics

Parameter	Min	Typ	Max	Unit	Condition
Frequency	-	100	-	MHz	
Frequency Stability vs Temperature	±200	-	±200	ppb	
Frequency Stability vs Supply	-5	-	+5	ppb	±5% voltage change
Frequency Stability vs Load	-5	-	+5	ppb	± 10% load change
Short Term	-	-	0.05	ppb	root Allan variance τ=1 sec
Warm-up	-50	-	+50	ppb	In 5 minutes @ +25°C, referenced to 1 hour
G-Sensitivity (each axis)	-	-	1	ppb/g	
Aging	-5	-	+5	ppb	per day after 30 days
	-0.2	-	+0.2	ppm	per year
	-2.0	-	+2.0	ppm	15 years
Initial Calibration	-0.3	-	+0.3	ppm	After 30 minutes @25°C±1, Vcontrol = 5.0V
Operating Temperature Range	-40	-	+85	°C	
Supply Voltage [1] V_{CC}	4.75	5.0	5.25	V	
Current	-	-	950	mA	@turn on
Steady State	-	-	2.1	W	@ 25°C
Harmonics	-	-	-30	dBc	
Spurious	-	-	-100	dBc	
Storage Temperature Range	-55	-	+105	°C	

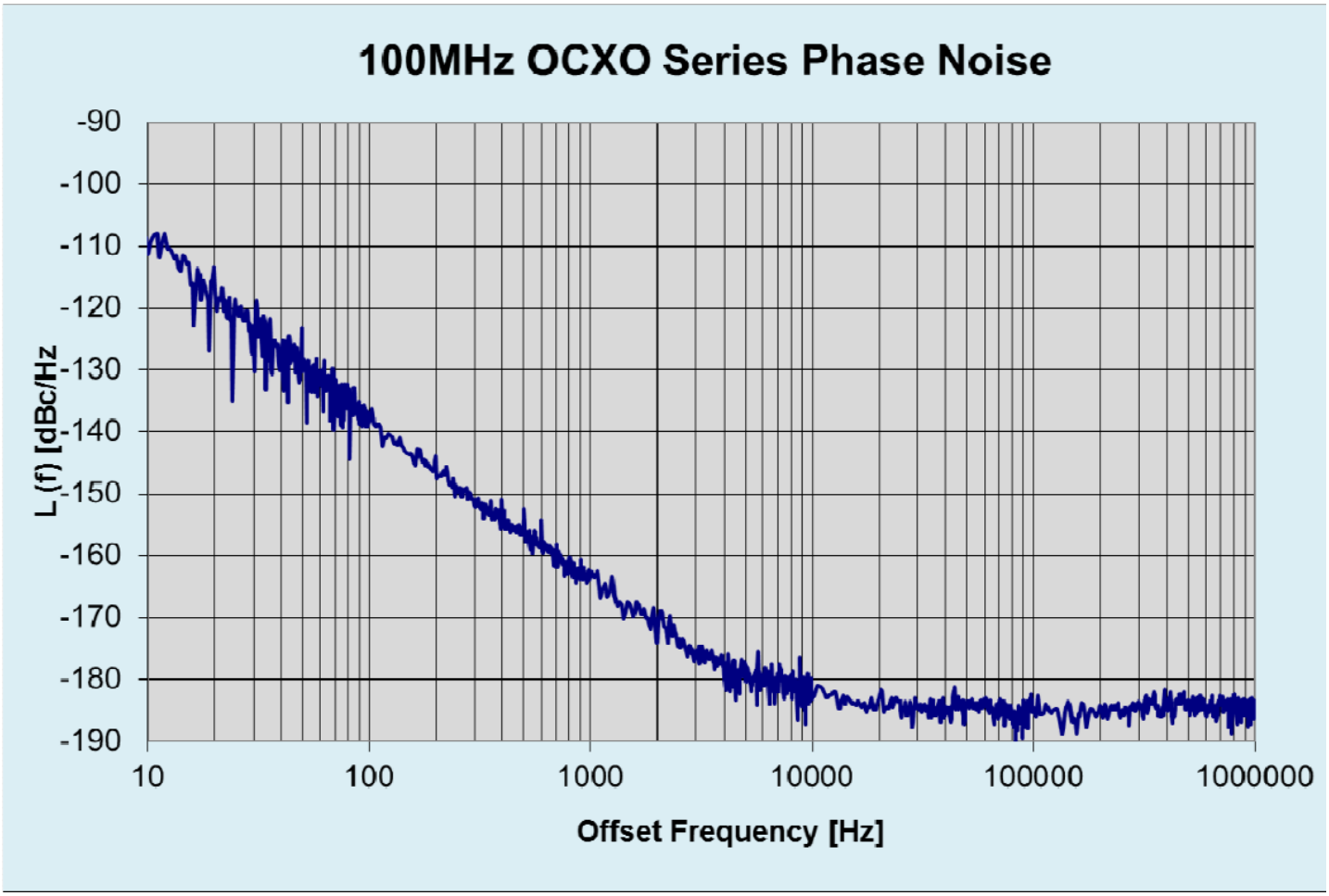
Waveform

Parameter	Min	Typ	Max	Unit	Condition
Output Waveform	Sinewave				
Level	+15	-	-	dBm	
Load	-	50	-	Ω	± 10%
Linearity	-10	-	+10	%	Slope positive

Note: [1] Place a 10nF power supply bypass capacitor next to device for correct operation

Phase Noise Characteristics

Phase Noise	10 Hz	-105	dBc/Hz
	100 Hz	-135	
	1 kHz	-162	
	10 kHz	-180	
	100 kHz	-185	
	1 MHz	-185	



Device Marking

PLE
OLA5001
100.0M
YMDz
S/N: *xxx*

PLE = Pletronics
OLA5001 = Model number/Part number
100.0M = 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

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 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: e3

Environmental / ESD Ratings

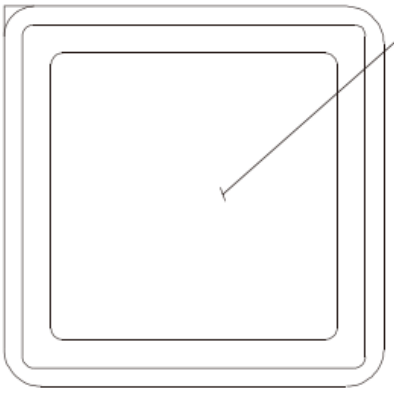
Reliability: Environmental Compliance

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

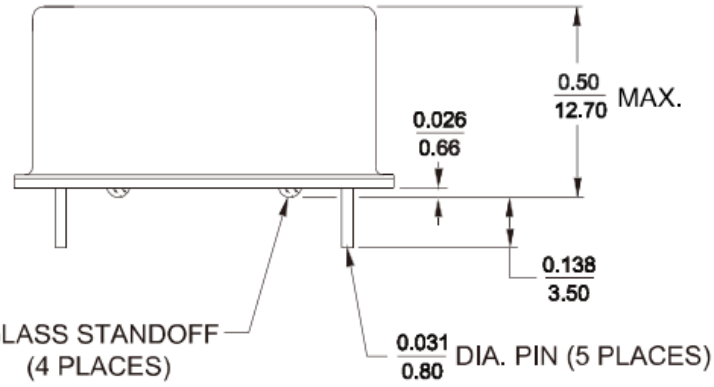
Model	Min Voltage
Human Body Model	2000V
Charged Device Model	500V
Machine Model	200V

Mechanical Dimensions

[TOP VIEW]



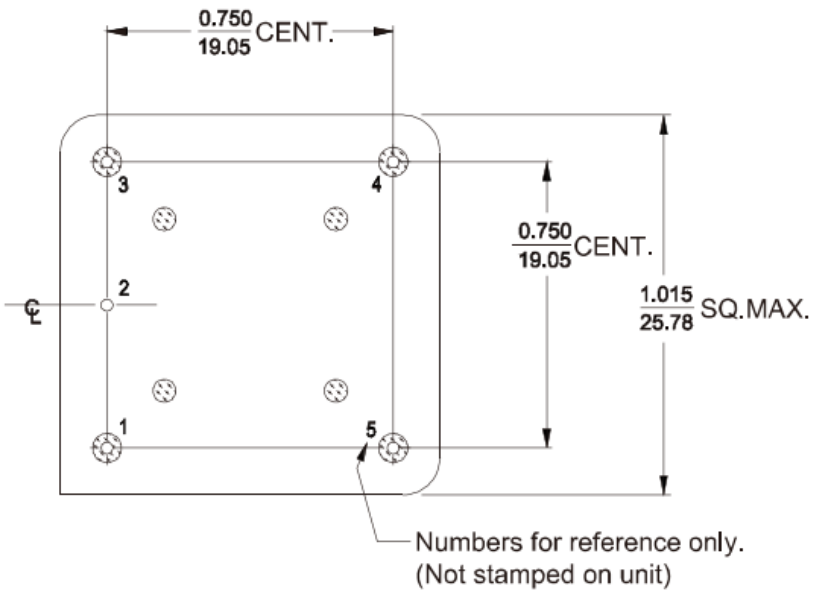
[SIDE VIEW]



TOLERANCES
UNLESS OTHERWISE SPECIFIED:
ANGLES: ±1 DEGREE
FRACTIONS:±1/32 INCH
DECIMALS: .XX±.015,.XXX±.010 INCH

INCH / mm (REFERENCE ONLY)

[BOTTOM VIEW]



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

Note:
1. If the specification does not specify parameters for either PIN3 or PIN4 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

Important Notice

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