



# PLETRONICS OLA5006-100.0M 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
- 12.0V nominal Supply Voltage
- 100.0 MHz Frequency
- Voltage control function
- Low Power Consumption, Fast Warm Up Time

## 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	-	100	-	MHz	
Frequency Stability vs Temperature	-	-	±50	ppb	-20 to 70°C
Frequency Stability vs Supply	-	-	±5	ppb	± 5% voltage change
Frequency Stability vs Load	-	-	±5	ppb	± 5% load change
Short Term	-	-	0.05	ppb	root Allan variance τ=1 sec
Warm-up	-	-	±50	ppb	In 5 minutes @ +25°C, referenced to 1 hour
G-Sensitivity (each axis)	-	-	1	ppb/g	
Aging	-	-	±5	ppb	per day after 30 days
	-	-	±0.5	ppm	per year
	-	-	±2.0	ppm	10 years
Initial Calibration	-	-	±0.3	ppm	After 60 minutes @25°C±1, Vcontrol = 5.0V
Operating Temperature Range	-40	-	+85	°C	
Supply Voltage <sup>1</sup> V <sub>CC</sub>	11.4	12.0	12.6	V	
Control Voltage	0	5.0	10.0	V	
Pullability	±3.0	-	-	ppm	Referenced to frequency at nominal center voltage
Linearity	-	-	±10	%	Slope positive
Input Power	-	-	350	mA	Warm up
	-	-	2.0	W	Steady state
Phase Noise	10 Hz	-	-100	dBc/Hz	
	100 Hz	-	-135		
	1 kHz	-	-162		
	10 kHz	-	-173		
	100 kHz	-	-176		
1 MHz	-	-176			
Storage Temperature Range	-45	-	+90	°C	

## Waveform

Parameter	Min	Typ	Max	Unit	Condition
Output Waveform	Sinewave				
Level	+10	-	-	dBm	
Harmonics	-	-	-30	dBc	
Spurious	-	-	-80 -100	dBc	10Hz ~ 1kHz from carrier 1kHz ~ 1MHz from carrier
Load	-	50	-	Ω	± 5%

## Reference Voltage (Pin 4)

Voltage	Min	Typ	Max	Unit	Condition
	+9.5	+10.0	+10.5	V	

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



# PLETRONICS OLA5006-100.0M OCXO Oscillator

## Device Marking

PLE  
OLA5006  
100.0M  
YMDz  
S/N: xxx

PLE = Pletronics  
OLA5006 = 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)

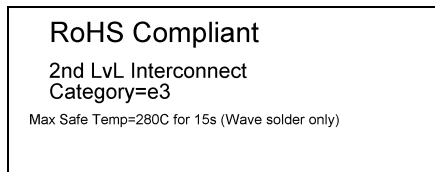
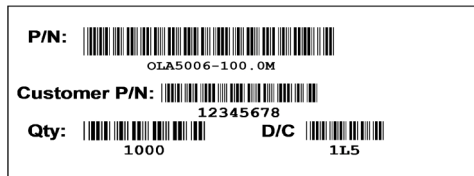
Code	2	3	4	5	6	Code	A	B	C	D	E	F	G	H	J	K	L	M
Year	2022	2023	2024	2025	2026	Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

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



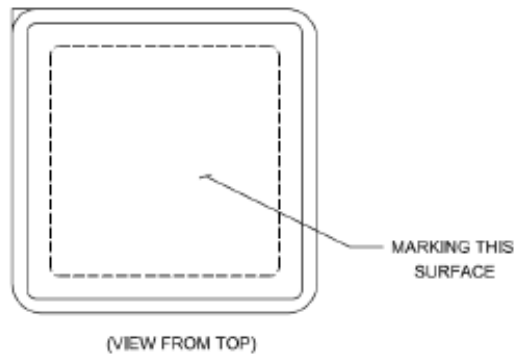
**Pletronics Inc. certifies this device is in accordance with the RoHS (by exemption 6c, 7a, 7c-i) and REACH directives.**  
Pletronics Inc. guarantees the device does not contain the following: Cadmium, Hexavalent Chromium, Mercury, PBB's, PBDE's  
Moisture Sensitivity Level: 1 As defined in J-STD-020D  
Second Level Interconnect code: e3

## Environmental

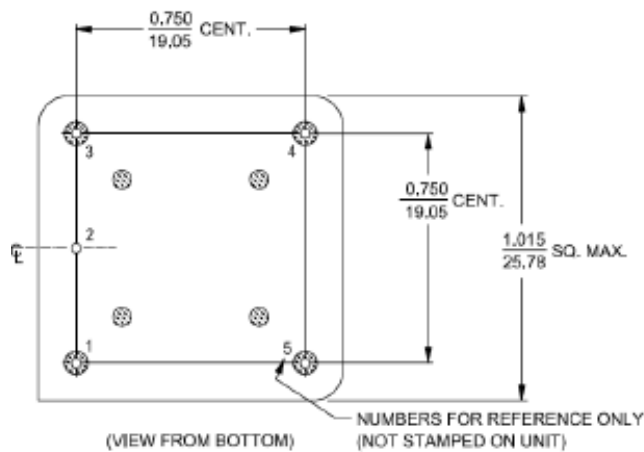
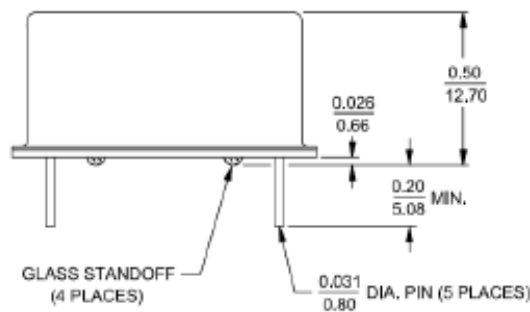
Reliability: Environmental Compliance

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 / Pin Connections



PIN CONNECTIONS	
PIN	FUNCTION
1	R. F. OUTPUT
2	0 VOLTS & CASE
3	VCO INPUT
4	REFERENCE VOLTAGE
5	+VDC



$\frac{NOM}{DIM}$  (REFERENCE ONLY)

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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