



PLETRONICS OSI5003-10.0M 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 15 ± 1 minutes @25°C±1, ≤90 days after date code, V _{control} = 2.5V ± 0.001V
Frequency Stability vs Temperature	-	-	±3	ppb	-30 to +70°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/g	root Allan variance
Aging	-	-	±0.5	ppb	per day at time of shipment
	-	-	±0.5	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 ¹ V _{CC}	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 _c	0	2.5	5	V	
Linearity	-	-	±10	%	
Input Impedance V _c 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 _{oh}	2.6	3.3	-	V
	V _{ol}	-	-	0.4	
Load	-	15	-	pF	
Duty Cycle	45	-	55	%	@ 1.65V
Rise/Fall Time	-	-	6	ns	10%~90%V _{CC}
Spurious	-	-	-60	dBc	

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



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Device Marking

PLE
OSI5003
100.0M
YMDz
S/N: xxx

PLE = Pletronics
OSI5003 = 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)

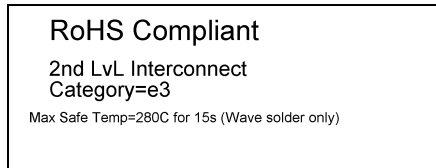
Code	2	3	4	5	6	Code	A	B	C	D	E	F	G	H	J	K	L	M
Year	2022	2023	2024	2025	2026	Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

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



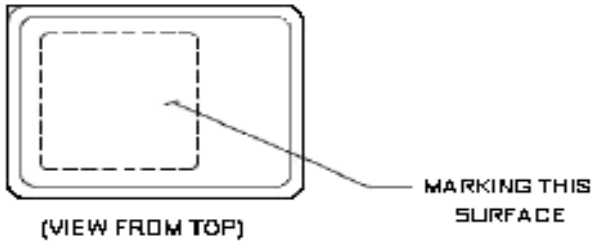
Pletronics Inc. certifies this device is in accordance with the RoHS (by exemption) and REACH directives.
Pletronics Inc. guarantees the device does not contain the following: Cadmium, Hexavalent Chromium, Mercury, PBB's, PBDE's
Moisture Sensitivity Level: 1 As defined in J-STD-020D
Second Level Interconnect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

Environmental

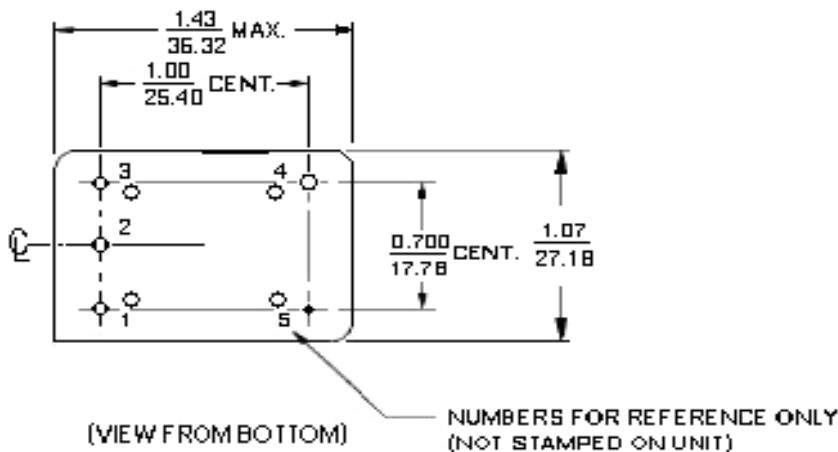
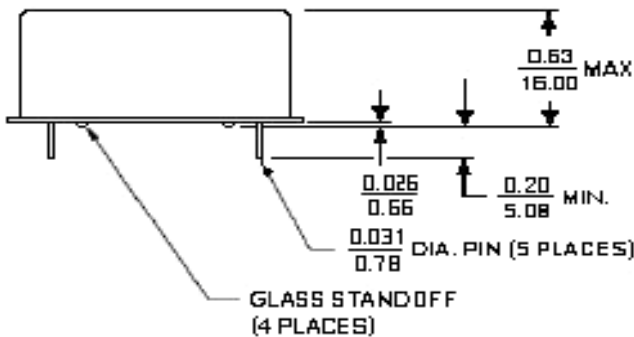
Reliability: Environmental

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



PIN CONNECTIONS	
PIN	FUNCTION
1	V _c IN
2	Not Connected
3	+V _{DC}
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
- Do not place near piezoelectric buzzers or mechanical fans
- Minimize air flow across the device



Important Notice

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