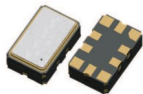




PLETRONICS OeDA010-10.0M OeXO® Oscillator



OeDA
5.0 x 3.2 x 1.85 mm
LCC Ceramic Package

Features

- Pletronics' OeXO® Series Ovenized equivalent Temperature Compensated Crystal Oscillator
- Low Power / Fast Warm Up
- CMOS Output
- 3.3V nominal Supply Voltage
- 10.0 MHz nominal frequency

Applications

SONET / SDH / DWDM
Test & Measurement
Telecom Transmission & Switching Equipment
Base Stations / Picocell
Wireless Communication Equipment

Electrical Characteristics

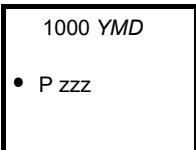
Parameter	Min	Typ	Max	Unit	Condition
Frequency Range	-	10	-	MHz	
Frequency Stability vs. Temperature	-	-	±0.28	ppm	Over -40°C to +85°C at fixed V _{CC} + load (reference to (F _{max} +F _{min})/2)
Frequency Tolerance	-	-	±1.0	ppm	at 25°C
Operating Temperature Range	-40	-	+85	°C	
Supply Voltage ¹ V _{CC}	3.135	3.3	3.465	Volts	
Supply Current I _{CC}	-	-	6.0	mA	Load: 15 pF, V _{CC} ± 5%
Output Waveform	CMOS				
Duty Cycle	45	50	55	%	Load: 15 pF ± 5% V _{th} : T _R and T _F 10% and 90% of V _{CC} V _{th} : D.C. 50% of V _{CC}
Output V _{HIGH}	90	-	-	%V _{CC}	
Output V _{LOW}	-	-	10	%V _{CC}	
Output T _{RISE} and T _{FALL}	-	-	6.5	nS	
Start-up Time	-	-	5.0	mS	
Phase Noise	100 Hz 1 kHz 10 kHz	-130 -145 -154	-	dBc/Hz	25°C ± 2°C
Storage Temperature Range	-55	-	+125	°C	

Note: ¹ Place a 10nF power supply bypass capacitor next to device for correct operation
² Connect 0.033µF capacitor on pin 7 to ground, required to meet phase noise performance



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Device Marking



1000 = 10.0MHz Frequency
YMD = Date Code (year, month, day)
z = Internal factory codes
P = Pletronics

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.

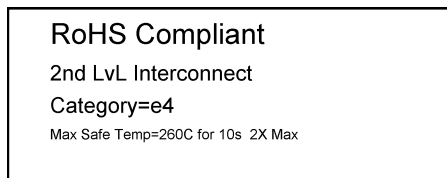
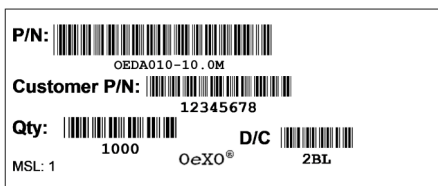
Codes for Date Code YMD (Year Month Day)

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 and REACH directives.

Pletronics Inc. guarantees the device does not contain the following: Cadmium, Hexavalent Chromium, Lead, Mercury, PBB's, PBDE's

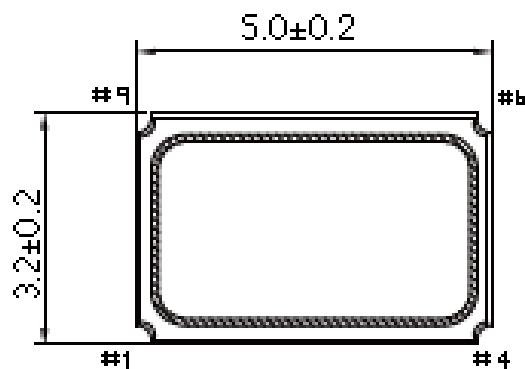
Weight of the Device: 0.10 grams

Moisture Sensitivity Level: 1 As defined in J-STD-020D

Second Level Interconnect code: e4

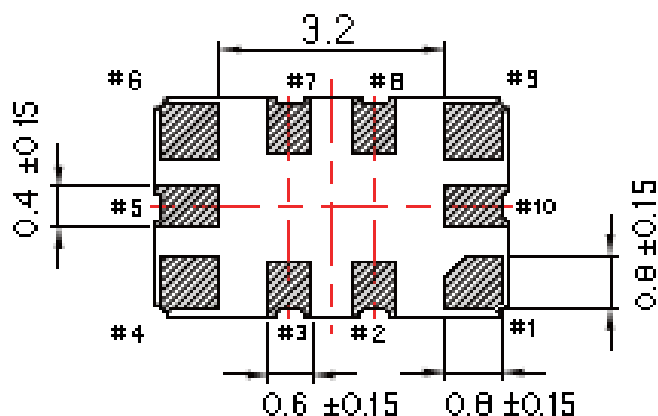
Mechanical Dimensions (mm)

[TOP VIEW]

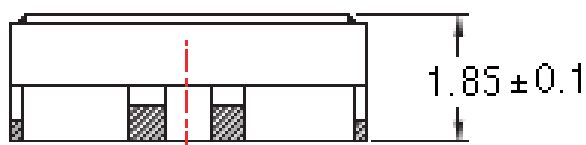


Pin 1 Mark

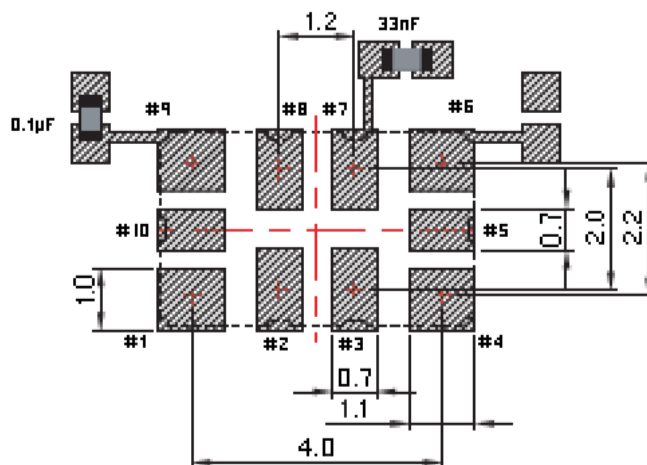
[BOTTOM VIEW]



[SIDE VIEW]



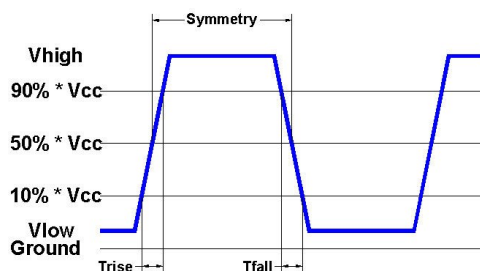
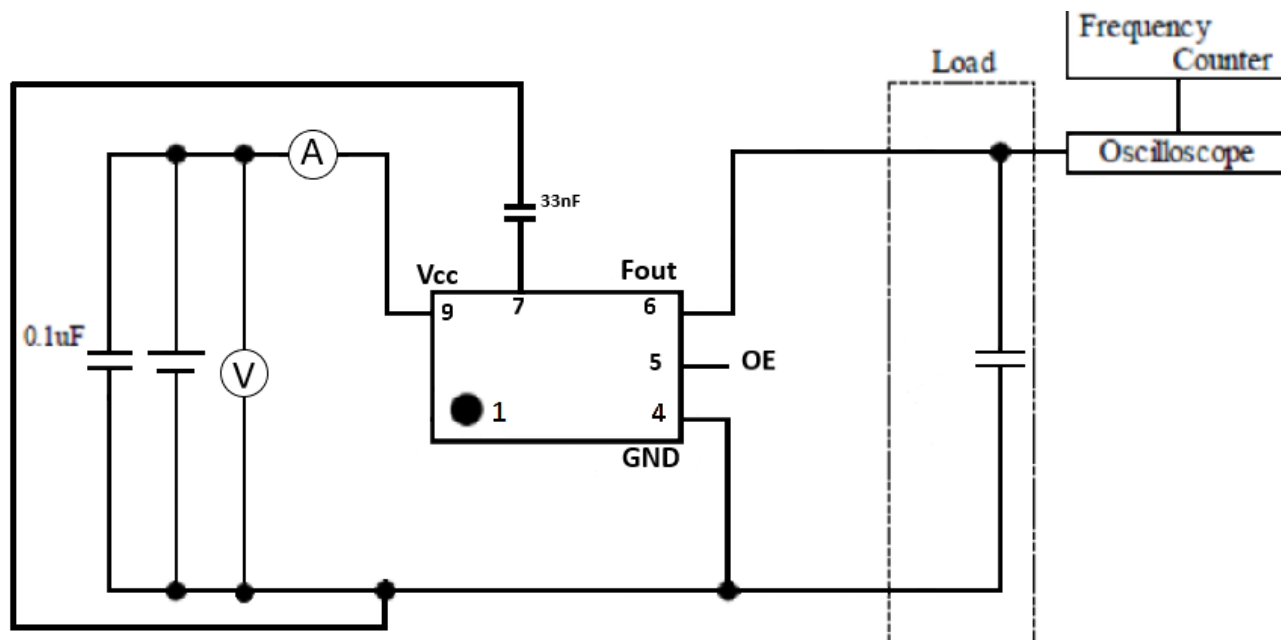
PIN#	FUNCTION
1	NC:TCXO
2	NC
3	NC
4	GND
5	Tri-state
6	Fout
7	VC Filter
8	NC
9	VDD
10	GND



Recommended soldering layout

To ensure optimal performance, place a 0.1µF capacitor as close as possible to the TCXO between Vdd and ground pads

Electrical Test /Load Circuit



Environmental / ESD Ratings

Reliability: Environmental

Parameter	Condition
Mechanical Shock	MIL-STD-883, Method 2002, Condition B
Vibration	MIL-STD-883, Method 2007, Condition A
Solderability	IPC J-STD-002
Thermal Cycle	MIL-STD-883 Method 1010, Condition B

ESD Rating

Model	Min. Voltage	Condition
Human Body Model	2000V	JESD22-A114
Machine Model	200V	JESD22-A115

Thermal Characteristics:

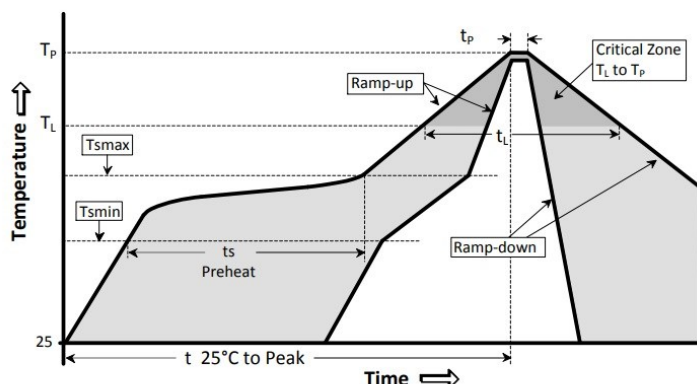
The maximum die or junction temperature is 125°C

Absolute Maximum Ratings

Parameter	Unit
V _{cc} Supply Voltage	-0.6V to +4.6V
V _i Input Voltage	-0.6V to V _{cc} + 0.6V
I _o Output Current	±10mA

Reflow Cycle

Maximum Reflow Conditions in accordance with IPC/JEDEC J-STD-020C "Pb-free"

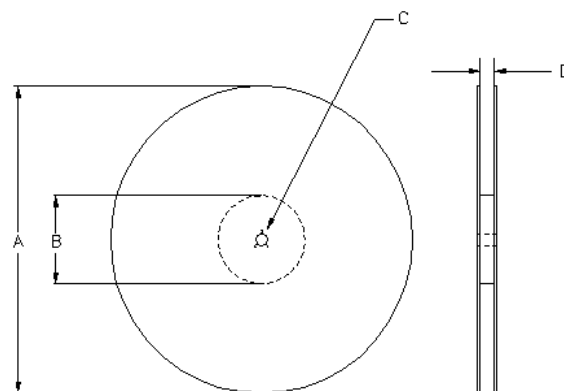
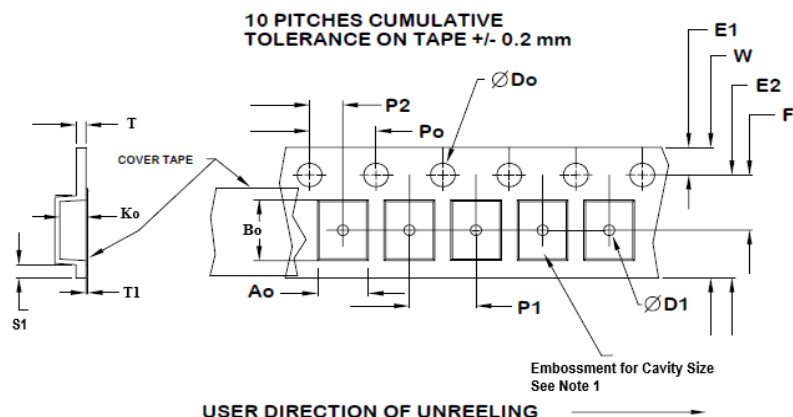


The part may be reflowed 2 times without degradation (typical for lead free processing).

Temperature Profile	Symbol	Condition	Unit
Average ramp-up rate	$(T_{Smax} \text{ to } T_p)$	3°C / second max	°C / s
Ramp down Rate	T_{cool}	6°C / second max	°C / s
Time 25°C to Peak Temperature	$T_{to-peak}$	8 minutes max	min
Preheat			
Temperature min	T_{Smin}	150	°C
Temperature max	T_{Smax}	200	°C
Time T_{Smin} to T_{Smax}	t_s	60 – 180	sec
Soldering above liquidus			
Temperature liquidus	T_{L1}	217	°C
Time above liquidus	t_L	60 – 150	sec
Peak temperature			
Peak Temperature	T_p	260	°C
Time within 5°C of peak temperature	t_p	20 – 40	sec

Tape and Reel

Tape and Reel available for quantities of 250 to 1000 per reel, cut tape for < 250. 12mm tape, 8mm pitch.



Tape Variable Dimensions Table 2

Tape Size	E2 typ	F	P1	W max	Ao	Bo	Ko
12mm	10.25	5.5 ±0.05	8.0 ±0.1	12.2	3.5±0.1	5.3±0.1	1.9±0.1

Dimensions in mm Drawing Not to scale

Note 1: Embossed cavity to conform to EIA-481-B

Tape Constant Dimensions Table 1

Tape Size	Do	D1 min	E1	Po	P2	S1 min	T max	T1 max
12mm	1.5 +0.1 -0.0	1.5	1.75 ±0.1	4.0 ±0.1	2.0 ±0.05	0.6	0.3	0.1

Reel Dimensions (may vary) Table 3

Reel Size	A	B	C	D
Inches	mm	Inches	mm	mm
7	7.0	180	2.50	60
				13.0 +0.5 -0.2
				Tape size +0.4 +2.0 -0.0



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Contacting Pletronics Inc.

Pletronics, Inc.
19013 36th Ave. West
Lynnwood, WA 98036-5761
U.S.A.

Tel: 425.776.1880
Fax: 425.776.2760
email: ple-sales@pletronics.com

URL: www.pletronics.com