MtronPTI ...when timing matters
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Specification for an IEEE 1588 Compliant LVCMOS SMT OCXO
MtronPTI P/N: XO5184-031sR

Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Nominal Frequency	F_O		12.800000		MHz	
Initial Accuracy	F_I	-100		+100	ppb	@ 25°C at time of shipment
Frequency Stabilities						
Overall		-4.6		+4.6	ppm	
vs. Temperature	$\Delta F_T/F$			10	ppb	Over operating temperature range
vs. Supply Voltage	$\Delta F_{VDD}/F$	-3		+3	ppb	5% change in voltage
Short Term Stability			1×10^{-11}			Allan Variance *Tau* = 1 sec.
Holdover/Day		-1		+1	ppb	Constant voltage and load; < ±3°C change in 24 hours
Aging (After 30 days continuous operation @ 25°C		-1		+1	ppb	Daily Aging
		-100		+100	ppb	Yearly Aging
		-2.0		+2.0	ppm	20 Years Aging
RF Output						
Output Type			LVCMOS			
Output Load			15		pF	±5% change
Symmetry (duty cycle)	T_{DC}	40	50	60	%	@ 50% of waveform
Rise/Fall Time	T_R/T_F			10	ns	From 10% to 90% V_{OUT}
Logic "1" Level	V_{OH}	90% V_{DD}			V	LVCMOS Load
Logic "0" Level	V_{OL}			10% V_{DD}	V	LVCMOS Load
Temperature and Supply Voltage						
Operating Temperature	T_A	-40		+85	°C	
Storage Temperature	T_S	-50		+105	°C	
Operating Voltage	V_{DD}	3.135	3.3	3.465	V	
Power Consumption				1.3	Watts	Steady state @ 25°C In still air
				3.3	Watts	@ warm-up
Warm-up Time (Restabilization)				5	Minutes	Time to be within ±0.1 ppm of the frequency after 1 hour of operation @ 25°C
Additional Parameters						
Phase Noise (typical)			-80		dBc/Hz	1 Hz
			-110		dBc/Hz	10 Hz
			-130		dBc/Hz	100 Hz
			-145		dBc/Hz	1 kHz
			-150		dBc/Hz	10 kHz

Environmental Conditions:

Mechanical Shock	Per MIL-STD-202, Method 213, (2000 g's, 0.3 m s duration, ½ sinewave)
Vibration	Per MIL-STD-202, Method 201 & 204 (10 g's from 20-2000 Hz)
Solderability	Per EIAJ-STD-002
Soldering Conditions	See figure 2
RoHS	Full RoHS 6 Compliance

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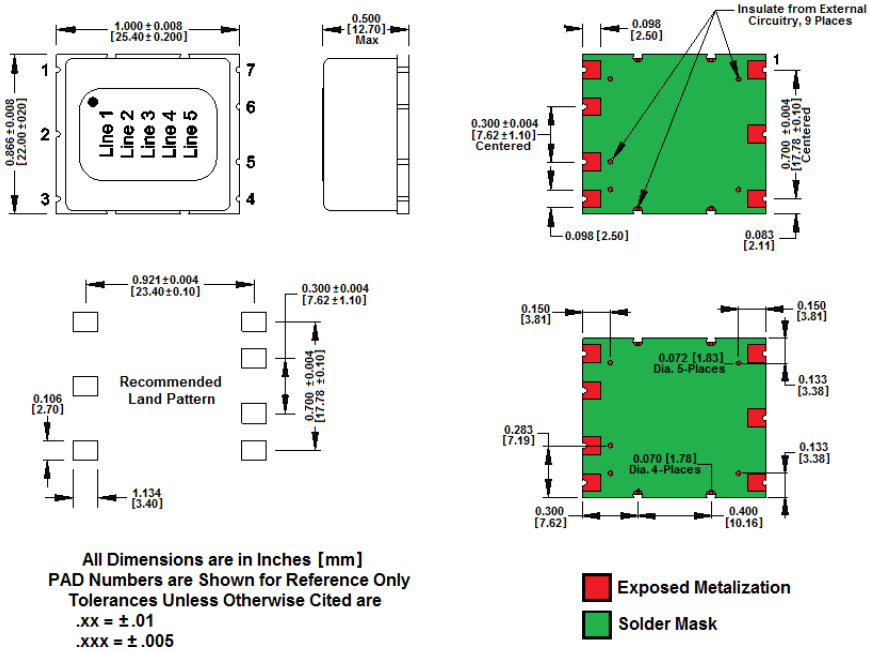
Mechanical, Marking and Layout Information:

Part Marking	
Line 1	MtronPTI
Line 2	XO5184-031sR
Line 3	12.80MHz
Line 4	Serial Number
Line 5	Date Code

Legend	
yy	Year
ww	Work Week

Pin	Function
1	N/C
2	N/C
3	Supply Voltage
4	RF Output
5	N/C
6	N/C
7	Case Ground

Note: The XO5184-031sR is a non-hermetic and non-washable OCXO.



All Dimensions are in Inches [mm]
PAD Numbers are Shown for Reference Only
Tolerances Unless Otherwise Cited are
.xx = ±.01
.xxx = ± .005

Exposed Metalization
Solder Mask

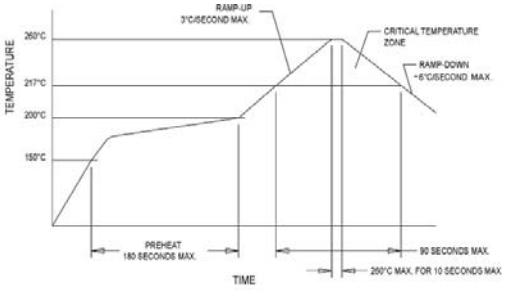


Figure 2

Data Sheet Revision Table:

Date	Rev.	Orig.	Details of Revision
11/07/13	C	BRM	Updated the Outline Drawing for dimensional clarity at the customer's request.
10/30/13	B	BRM	Updated the Outline Drawing for clarity at the customer's request.
10/17/13	A	BRM	Original Release.