2525 Shader Road Orlando Florida 32804 USA
Phone: 407-298-2000 Fax: 407-293-2979
Website: www.mtronpti.com AMEX: LGL

Specification for a CMOS 9x14mm 50MHz SMD VCXO
MtronPTI P/N: XO7013-008R

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Nominal Frequency	F_O		50.000000		MHz	
Frequency Stabilities						
Absolute Pull Range (APR)		±25			ppm	APR = (Pull range) - (degradations due to temperature+aging+power supply+load+ initial tolerance+shock+ vibration)
Aging (1st Year)				3	ppm	
Aging (after 1st year)				1	ppm/yr	
RF Output						
Output Type			CMOS			
Output Load			1//15		kΩ//pF	
Symmetry		45	50	55		@50% Vdd
Rise/Fall time				3	nsec	@ 20% to 80% Vdd
Logic Level "low"				10% Vdd		
Logic Level "High"		90% Vdd				
Frequency Adjustment						
Adjustment Method			External Voltage			
Adjustment Voltage	V_{TUNE}	0	1.65	3.3	V_{DC}	
Tuning Sensitivity			±25		ppm/V	
Linearity				10%		
Modulation Bandwidth		1			KHz	-3dB cut-off frequency
Input Impedance		100			Kohm	
Adjustment Slope			Positive			
Additional Parameters						
Phase Noise			-80		dBc/Hz	10Hz
			-115		dBc/Hz	100Hz
			-140		dBc/Hz	1kHz Offset
			-160		dBc/Hz	10kHz Offset
			-164		dBc/Hz	100kHz Offset
			-164		dBc/Hz	1MHz Offset
g-sensitivity				1.0	ppb/g	Worst case axis
Sub-harmonics			None			
Temperature, Supply Voltage & Power Consumption						
Operating Temperature	OTR	-40		+85	°C	Full Specification Compliance
Storage Temperature	STR	-45		+90	°C	
Operating Voltage	V_{dd}	3.135	3.3	3.465	V_{DC}	
Input Current				30	mA	

Mechanical and Environmental Conditions:

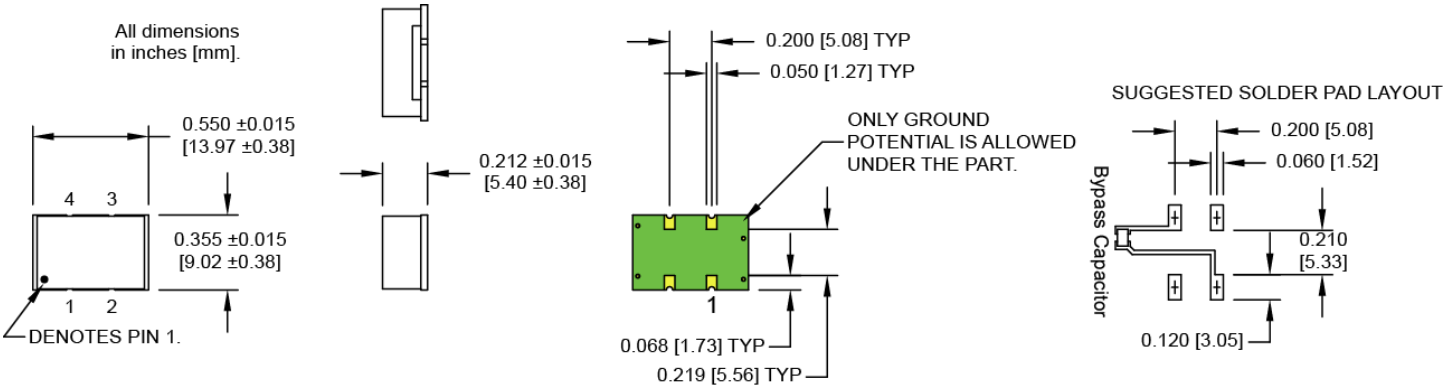
Seal	Non-Hermetic and Washable unit. Recommend a vacuum bake at 125 °C for 1 hour after wash. Components inside the VCXO will withstand a Parylene coating 0.25 – 0.75 mil thickness.
RoHS	Full RoHS Compliance
Shock	MIL-STD-202, Method 213 Test Condition D, 5 shocks in each axis

2525 Shader Road Orlando Florida 32804 USA
Phone: 407-298-2000 Fax: 407-293-2979
Website: www.mtronpti.com AMEX: LGL

Specification for a CMOS 9x14mm 50MHz SMD VCXO
MtronPTI P/N: XO7013-008R

Solderability	MIL-STD-883, Method 2003
Vibration	MIL-STD-883, Method 2007.3 Test Condition A (survival only)
Solvent Resistance	MIL-STD-202, Method 215
Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition I or J
Thermal Shock	MIL-STD-883, Method 1011, Condition A
Moisture Resistance	MIL-STD-883, Method 1004

Outline Marking and Pin-out:

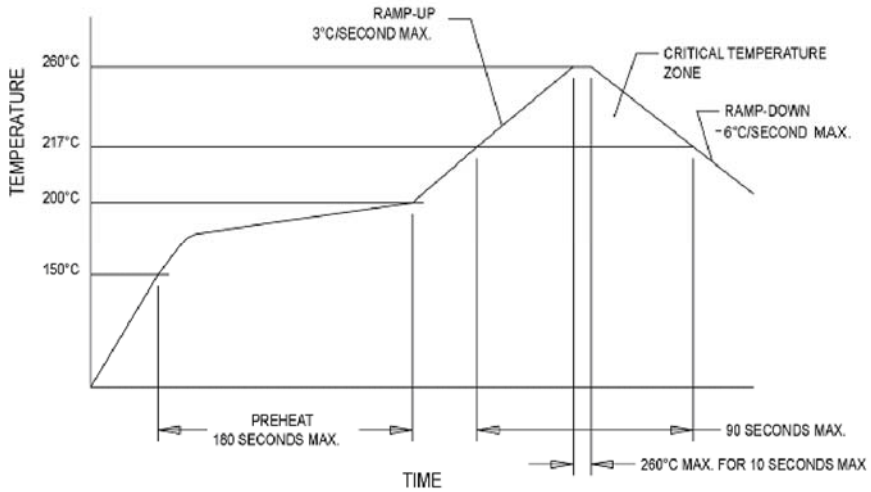


Marking:
Line 1: MtronPTI
Line 2: Part Number
Line 3: Frequency
Line 4: Date Code

Pad1: Voltage Control
Pad2: GND
Pad3: Output
Pad4: Vdd

3 decimals: +/- 15mil
2 decimals: +/- 10mil

Recommended Reflow Profile:

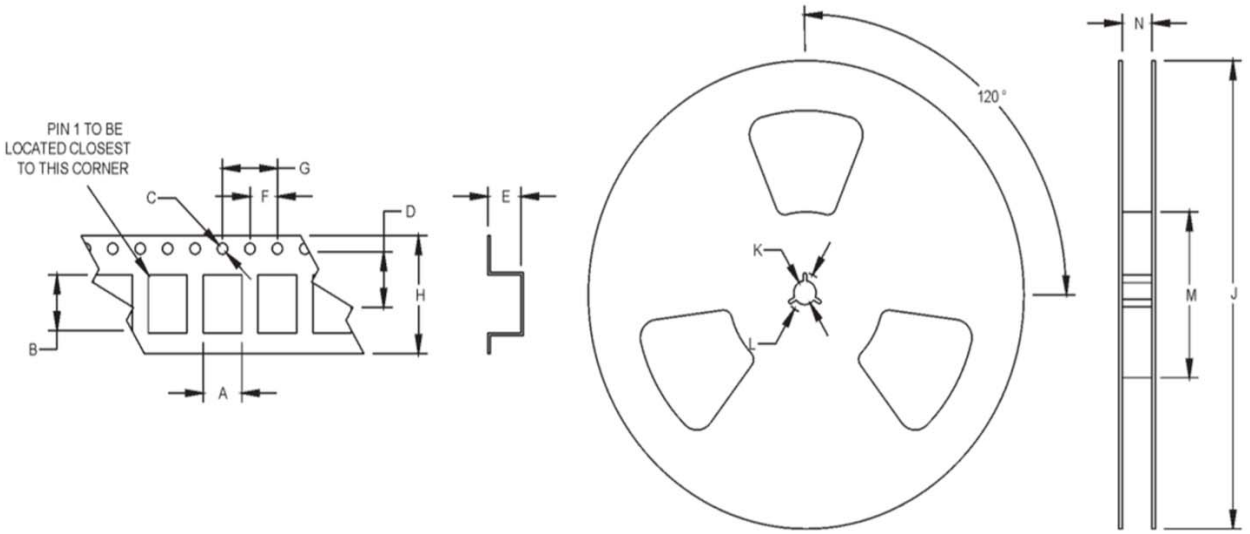


2525 Shader Road Orlando Florida 32804 USA
Phone: 407-298-2000 Fax: 407-293-2979
Website: www.mtronpti.com AMEX: LGL

Specification for a CMOS 9x14mm 50MHz SMD VCXO
MtronPTI P/N: XO7013-008R

Tape and Reel:

All units in mm



Tape and Reel Specifications											
A	B	C	D	E	F	G	H	J	K	L	M
9.65	15.24	1.5	11.5	6.73	4	16	24	330	6.5		100

Data Sheet Revision Table:

Date	Rev.	Orig.	Details of Revision
10-18-19	B	BRR	Revised phase noise at 100kHz & 1MHz offsets; G-sensitivity spec changed from 0.5 to 1ppb/g
05-20-19	A	BRR	Preliminary Release