

## Specification for a HCMOS Output SMD OCXO

### MtronPTI P/N: XO5082-020sR

#### Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Nominal Frequency	F <sub>O</sub>		100.00000		MHz	
Frequency Stability						
Over Temperature Range				±0.30	ppm	
vs Supply Variation				±0.15	ppm	±5% change in V <sub>CC</sub>
vs Load Variation				±0.10	ppm	±5% change in load
Aging (after 30-days continuous operation)				±1.00	ppm	Yearly
				±3.00	ppm	10-years
RF Output						
Output Type	HCMOS					
Logic Level '1'	V <sub>OH</sub>	+3.0			V <sub>DC</sub>	
Logic Level '0'	V <sub>OL</sub>			+0.3	V <sub>DC</sub>	
Rise/Fall Times	T <sub>R</sub> /T <sub>F</sub>			10	nsec	10% to 90%
Duty Cycle		40		60	%	
Output Load			15		pF	±5%
Frequency Adjustment						
Adjustment Method	External Voltage					
Tuning Voltage	V <sub>TUNE</sub>	0		+10.0	V <sub>DC</sub>	
Tuning Range		±4.0			ppm	
Input Impedance		>100			kΩ	
Reference Voltage	V <sub>REF</sub>	0	+10.0		V <sub>DC</sub>	±5%
Linearity				10	%	
Tuning Slope		Positive				
SSB Phase Noise						
SSB Phase Noise, (under static conditions)		-88			dBc/Hz	@ 10Hz Offset
		-118				@ 100Hz Offset
		-145				@ 1kHz Offset
		-150				@ 10kHz Offset
		-150				@ 100kHz Offset
Additional Specifications						
Warm-up Time				3	Minutes	@ +25°C to within ±200ppb of the frequency @ 1-hour after 24-hours power off
Oven Ready (Open Collector)	Low	Oven NOT Ready				3mA sink Max
	High	Oven Ready				

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Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
<b>Supply Voltage &amp; Power Consumption</b>						
Supply Voltage	V <sub>CC</sub>	11.4	+12.0	12.6	V <sub>DC</sub>	
Warm-up Power				3.5	Watts	@ Start-up
Steady State Power				1.25	Watts	@ +25°C

**Physical & Environmental:**

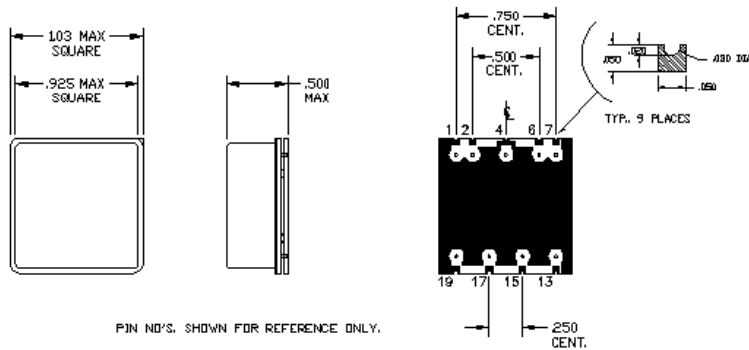
Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Operating Temperature	OTR	-40		+85	°C	
Storage Temperature	STR	-45		+95	°C	
Package		SMD, ENiG (Electroless Nickel Immersion Gold) Pad finish, Resistance Weld, Reference Drawing				
Weight		< 20-grams				
Seal		Per MIL-STD-202, Method 112, Condition D				
RoHS		RoHS Compliant. <i>Note: MtronPTI utilizes exemption 7a (Lead in high melting temperature type solders -lead based alloys containing 85% lead by weight) for the surface mount adapter board assembly.</i>				

**Mechanical and Pinout:**

Part Marking	
Line 1	MtronPTI
Line 2	XO5082-020sR
Line 3	100.00MHz
Line 4	Serial Number
Line 5	Date Code

Legend	
yy	Year
ww	Work Week

Pin	Function
1	Output
4	Case Ground
7	V <sub>TUNE</sub>
13	V <sub>REF</sub>
17	Oven Ready
19	Supply
2, 6, 15	N/C



**Data Sheet Revision Table:**

Rev	Chg	By	Description
5/21/14	B	BRM	Added specifications for Weight & Pad finish. Updated the RoHS specification to Note exemption 7a.
01/07/13	A	BRM	Converted to an SMD configuration at the customer's request.
01/02/13	-	BRM	Original Release.