1703 E. Highway 50 Yankton, SD 57078 USA
Phone: 800-762-8800 or 605-665-9321 Fax: 605-665-1709
Website: www.mtronpti.com

SPECIFICATION FOR SMT VCTCXO
MtronPTI P/N: M6054S022

Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency of Operation	F_O		10.000000		MHz	
Frequency Stability						
Frequency Stability	$\Delta F/F$	-0.5		+0.5	ppm	Over -40°C to +85°C range. (Relative to frequency @+25˚C)
Aging	$\Delta F_{AGE}/F$	-0.5		+0.5	ppm	Per year
Frequency Vs. Supply	$\Delta F_{VDD}/F$			±0.2	ppm	For ±5% voltage change
Frequency Vs. Output Load	$\Delta F_{LOAD}/F$			±0.2	ppm	For ±10% load change
Output						
Output Type		CMOS Compatible				
Output Load			15		pF	
Symmetry (duty cycle)	TDC	45	50	55	%	@ 50% of VDD
Logic "1" Level	V_{OH}	90% V_{DD}			% V_{DD}	CMOS load
Logic "0" Level	V_{OL}			10% V_{DD}	V	CMOS load
Output Current Levels	I_{OH}			+4	mA	90% V_{DD} Min
	I_{OL}			-4	mA	10% V_{DD} Max
Rise/Fall Time	T_R/T_F			6	ns	From 10% to 90% Vdd
Startup Time	T_{SU}			2	ms	
Voltage Tuning						
Tuning Slope		Positive				
Tuning Voltage		0.50	1.50	2.50	V	Pad 1
Tuning Range		±5			ppm	Ref. to frequency with Vc=1.50
Input Impedance	Z_{IN}	100			KΩ	
Additional Specifications						
Phase Noise (Under Static Conditions)			-91		dBc/Hz	@ 10 Hz
			-117			@ 100 Hz
			-139			@ 1 kHz
			-153			@ 10 kHz
			-157			@ 100 kHz
Period Jitter	PJ		2.5		ps	RMS
			21		ps	Peak to Peak
Supply Voltage & Power Consumption						
Operating Voltage	V_{DD}	2.97	3.30	3.63	V	
Operating Current	I_{DD}			3.5	mA	

Environmental Conditions:

Operating Temperature	T_A	-40		+85	°C	
Storage Temperature	T_S	-55		+125	°C	
Mechanical Shock	Per MIL-STD-202, Method 213 (2000 g, 0.3 ms duration, ½ sine wave)					
Vibration	Per MIL-STD-202, Method 201 & 204 (10 g's from 10-2000 Hz)					
Hermeticity	Per MIL-STD-202, Method 112 (1x10-8 atm.cc/s of helium)					
Solderability	Per EIAJ-STD-002					
Max. Soldering Conditions	See solder profile, Figure 1					
Package Type	5.0 x 3.2 x 1.55 mm, Ceramic Leadless Chip Carrier (M6054 Series)					

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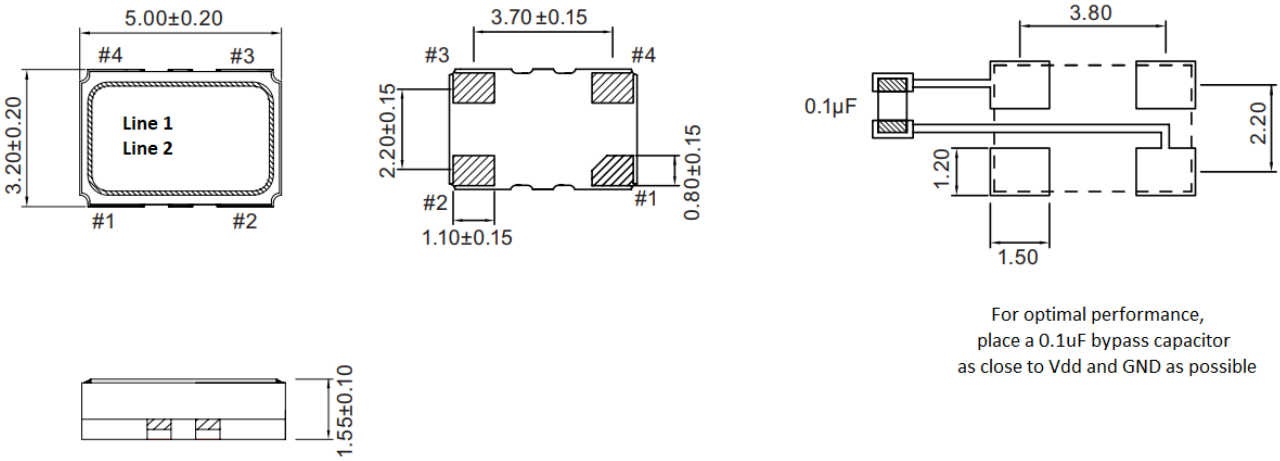
Mechanical, Marking and Layout Information:

Part Marking	
Line 1	10M000
Line 2	M yy ww vv

Legend	
yy	Last 2 digits of year
ww	Week number
vv	Factory Code

Pad	Function
1	Tuning Voltage
2	GND
3	Output
4	$+V_{DD}$



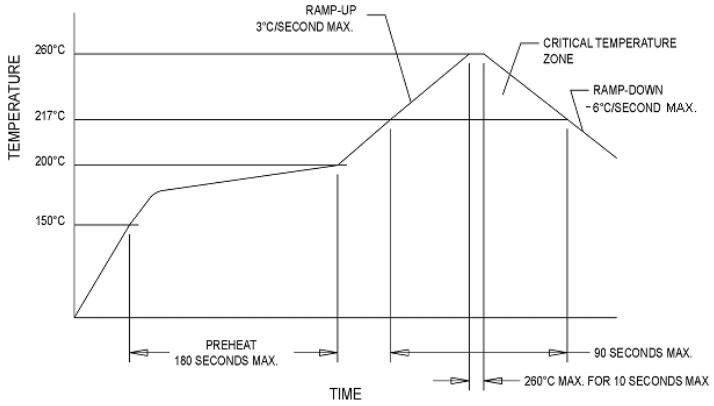


Figure 1

Datasheet Revision Table:

Date	Rev.	Author	Details of Revision
02/26/18	0	MM	Original Release.