SPECIFICATION FOR HCMOS COMPATIBLE SMT OSCILLATOR
MtronPTI P/N M2002S380

Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency of Operation	F_O		10.000000		MHz	
Frequency Tolerance		-25		+25		@ +23°C ± 3°C
Frequency Stability	$\Delta F/F$	-100		+100	ppm	Includes initial calibration tolerance, deviation over operating temperature, shock, vibration, supply, load and aging.
Operating Temperature	T_A	-55		+125	°C	
Storage Temperature	T_S	-55		+125	°C	
Supply Voltage	V_{DD}	2.97	3.3	3.63	V	
Supply Current (1)	I_{DD1}			15	mA	Output enabled
Supply Current (2)	I_{DD2}			4	mA	Output disabled
Output Type		HCMOS Compatible				
Output Load				15	pF	
Symmetry (duty cycle)	T_{DC}	40		60	%	Ref to ½ V_{DD}
Logic "1" Level	V_{OH}	90% V_{DD}			V	HCMOS load
Logic "0" Level	V_{OL}			10% V_{DD}	V	HCMOS load
Rise/Fall Time	T_R/T_F			10	ns	From 10% to 90% V_{DD}
Tri-State Enable Logic	V_{IH}	2.0			V	Pad 1
Tri-State Disable Logic	V_{IL}			0.3	V	Pad 1
Enable Disable Time	T_{SU}			150	ns	Pad 1

Environmental & Mechanical Requirements:

Mechanical Shock	Per MIL-STD-202, Method 213, Condition C (100 g's, 6 ms duration, ½ sinewave)
Vibration	Per MIL-STD-202, Method 201 & 204 (10 g's from 10-2000 Hz)
Hermeticity	Per MIL-STD-202, Method 112 (1 x 10^{-8} atm cc/s of Helium)
Solderability	Per EIAJ-STD-002
Max. Soldering Conditions	See solder profile, Figure 1
Package Type	4- pad 5 X 7 X 1.9 mm leadless ceramic. (M2 type)
Part Marking	All parts that have completed the tests and screening requirements shall be marked with a yellow color dot on the top cover of the device.

Testing/Screening Requirements:

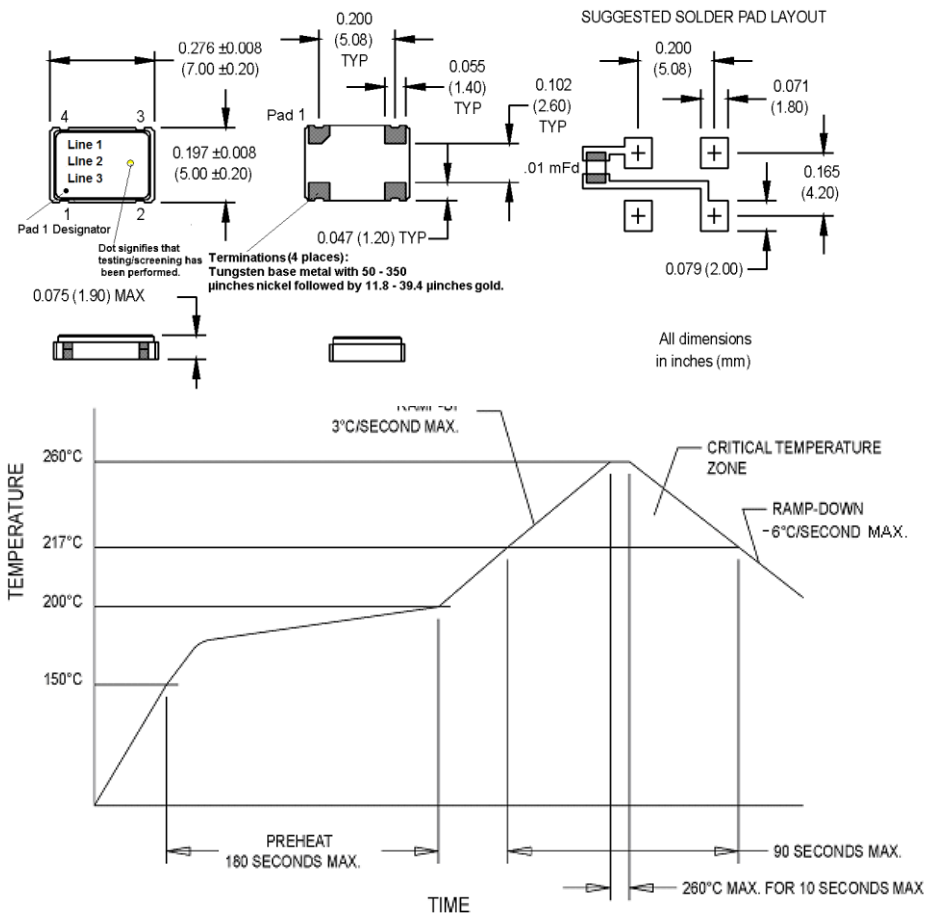|	
Special Product Testing	All lots supplied to Hamilton Sunstrand shall have all Electrical Specifications as shown above in this drawing verified at –55°C to +125°C. When tested, lot shall demonstrate a percent defective of no greater that 0.5% (99.5% yield). A demonstrated reject rate of greater that 0.5% will be sufficient cause for the lot to be rejected.
Date Code	All parts from one lot shall be from one date code. Product shall be no older than one year from the receiving date of the purchase order from Hamilton Sunstrand.

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Dimensions, Marking, and Pin Out Information:

Pad	Function
1	Tri-state
2	Ground
3	Output
4	+V$_{DD}$

Part Marking	
Line 1	M2002S380
Line 2	10M000
Line 3	M yywwvv

Legend	
yy	Year
ww	Work week
vv	Factory code

Figure 1

DATA SHEET REVISION TABLE:

Date	Rev.	Author	Details of Revision
2/4/05	0	RLC	Original release.
1/6/06	A	RLC	Added colored dot to part marking to indicate screening performed per Hamilton specs.
8/27/09	B	WNJ	Updated data sheet format. Added Tri-state enable/disable logic levels. Updated to Hamilton drawing Rev. "L"
2/6/14	C	MM	Added ITAR statement.
5/20/14	D	MM	Removed ITAR statement.