

SPECIFICATION FOR HCMOS/TTL COMPATIBLE SMT OSCILLATOR

MtronPTI P/N: M2010S142

Electrical Specifications

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency of Operation	F _O		20.000000		MHz	
Frequency Stability	ΔF/F	-50		+50	ppm	
Operating Temperature	T _A	-40		+85	°C	
Storage Temperature	T _S	-55		+125	°C	
Aging		-3		+3	ppm	1 st year
		-2		+2	ppm	Thereafter (per year)
Operating Voltage	V _{DD}	4.5	5.0	5.5	V	
Operating Current	I _{DD}			20	mA	
Output Type		HCMOS/TTL Compatible				
Output Load				15/10	pF/TTL	
Symmetry (duty cycle)	T _{DC}	40		60	%	Ref to ½ V _{DD}
Logic "1" Level	V _{OH}	90% V _{DD}			V	HCMOS load
	V _{OH}	V _{DD} – 0.5			V	TTL Load
Logic "0" Level	V _{OL}			10% V _{DD}	V	HCMOS load
	V _{OL}			0.5 V		TTL Load
Output Current	I _{OH}			-16	mA	
	I _{OL}			+16	mA	
Rise/Fall Time	T _R /T _F			10	ns	From 10% to 90% V _{DD}
Random Jitter (RMS)	R _j		5	12	ps	1-Sigma
Start-Up Time				10	ms	

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)
Thermal Cycle	Per MIL-STD-883, Method 1010, B (-55°C to 125°C, 15 min. dwell, 10 cycles)
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	5 X 7 X 1.9 mm leadless ceramic. RoHS compliant.

SPECIFICATION FOR HCMOS/TTL COMPATIBLE SMT OSCILLATOR MtronPTI P/N: M2010S142

Dimensions, Marking, and Pin Out Information:

Pad	Function
1	N/C
2	Ground
3	Output
4	+V _{DD}

Part Marking	
Line 1	M2010S142
Line 2	20M0000
Line 3	M yywwvv

Legend	
yy	Year
ww	Work week
vv	Factory code

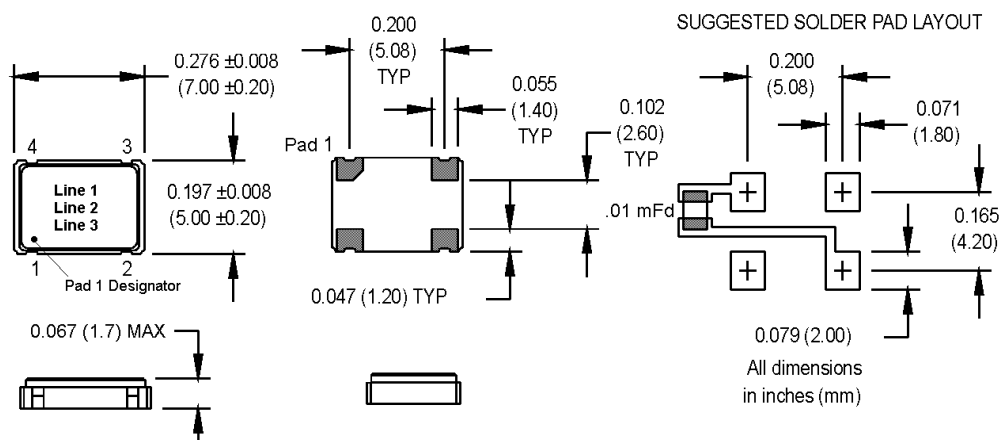
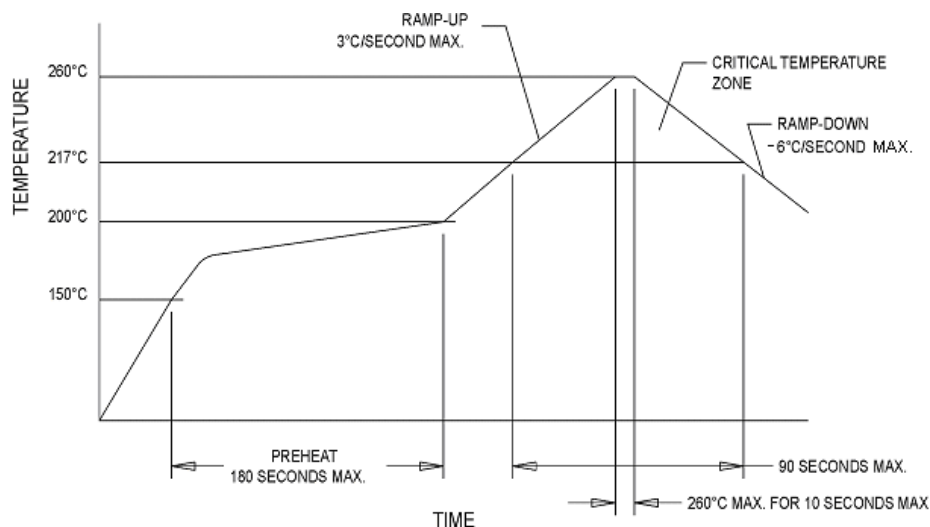


Figure 1



Datasheet Revision Table

Date	Rev.	Author	Details of Revision
10/16/09	0	WNJ	Original release.