Specification for an SMT – Gullwing Oscillator
MtronPTI P/N: M2002S992

I. GENERAL & ELECTRICAL REQUIREMENTS:

II.

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency of Operation	F_O		14.745600		MHz	
Frequency Stabilities						
Initial Frequency Tolerance		-25		+25	ppm	@ 23°C ±3°C
Frequency Stability	ΔF/F	-100		+100	ppm	Includes initial tolerance, deviation over temperature, shock, vibration, voltage & load variations, and aging
Output						
Output Type		HCMOS/TTL Compatible				
Output Load				15	pF	
Symmetry (duty cycle)	T_{DC}	40		60	%	@ 50% of waveform
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	*nsec*	From 10% to 90% V_{CC}
Additional Specifications						
Start-up Time	T_{SU}			10	*msec*	
Enable/Disable Time				150	nS	
Enable/Disable Function	Enable	Logic High. or N/C			V	Pad 1: Output Enabled
	Disable	Logic Low.				Pad 1: Output is high-Z when disabled
Supply and Temperature						
Operating Voltage	V_{CC}	2.97	3.3	3.63	V_{DC}	
Operating Current	I_{CC}			15	*mA*	
Operating Temperature	OTR	-55		+125	*°C*	

II. 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)
Storage Temperature	-55°C to +125°C
Hermeticity	MIL-STD-883, Method 1014, Test Condition A1 for Fine Leak, Test Condition C1 for Gross Leak
Solderability	Per MIL-STD-883, Method 2003
Max. Soldering Conditions	See solder profile, Figure 1
Package Type	4 - Pad leadless ceramic package with (4) Gullwing Leads attached (M2 Type)
Reflow Conditions	+260°C for 10 seconds. Max (See Section V)
Lead Attachment	Thermo-compression Weld using Copper Leads and Gold Pads
Lead Pull Test	Shall withstand 8oz. pull per MIL-STD-883, Method 2004, Condition A
Lead Finish	Hot Solder Dipped, Sn63Pb37 alloy or equivalent

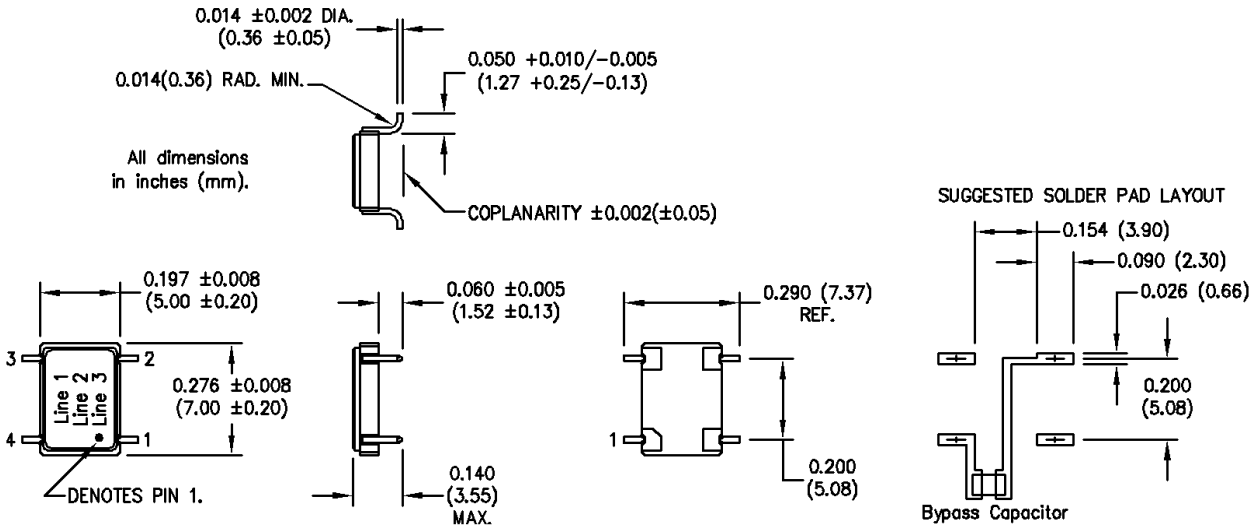
Specification for an SMT – Gullwing Oscillator
MtronPTI P/N: M2002S992

IV. Mechanical, Marking and Layout Information:

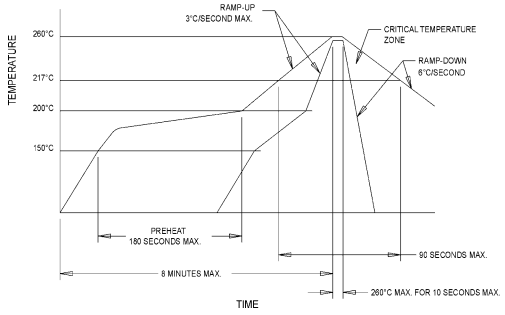
Pad	Function
1	Tristate
2	Ground
3	Output
4	$+V_{CC}$

Part Marking	
Line 1	M2002S992
Line 2	14M7456
Line 3	M yyww

Legend	
yy	Year
ww	Work week



V. SOLDER PROFILE:



DATA SHEET REVISION TABLE:

Date	Rev.	Author	Details of Revision
04/08/13	4	BRM	Updated the datasheet with a revised outline drawing.
10/04/12	3	BRM	Updated the package drawing at the customer's request to include then package body width and overall height dimensions.
9/14/12	2	BRM	Updated the package drawing for greater dimensional detail
9/7/12	1	BRM	Original release.