



SPECIFICATION FOR EXTENDED TEMPERATURE SMT OSCILLATOR MtronPTI P/N M2002T118

Electrical Specifications:

Parameter	Symbol	Min.	Тур.	Max.	Units	Conditions
Frequency of Operation	Fo		1.000000		MHz	
Frequency Stability	ΔF/F	-100		+100	ppm	Inclusive of initial tolerance at +25°C, deviation over temperature, variations due to shock, vibration, load, voltage and 1 st year aging at +25°C.
Operating Temperature	TA	-55		+125	°C	
Storage Temperature	Ts	-55		+125	С°	
Aging		-5		+5	ppm	Per year
Operating Voltage	V _{dd}	3.135	3.3	3.465	V	
Operating Current	l _{dd}			10	mA	
Output Type		HCMOS/TTL Compatible				
Output Load				15/10	pF/TTL	
Symmetry		45		55	%	Ref. to ½ V _{dd}
Logic "1" Level	Vон	90% V _{DD}			V	
Logic "0" Level	V _{OL}			10% V _{DD}	V	
Output Current	Іон			-8	mA	
	IOL			+8	mA	
Rise/Fall Time				8	nS	10% to 90% Waveform
Tri-State Function		80% V _{DD} or N/C			V	Pad 1: Output Enabled
				20% V _{DD}	V	Pad 1: Output Disabled to high-Z
Start-Up Time				5	mS	
Random Jitter			5	12	pS	1-Sigma

Environmental & Mechanical Requirements:

Mechanical Shock	Per MIL-STD-202, Method 213, Condition C
Vibration	Per MIL-STD-202, Method 201 & 204
Hermeticity	Per MIL-STD-202, Method 112 (1 x 10-8 atm cc/s of Helium)
Thermal Cycle	Per MIL-STD-883, Method 1010, Condition B
Solderability	Per EIAJ-STD-002
Max. Soldering Conditions	See solder profile, Figure 1
Package Type	4-pad 5.0 X 7.0 X 1.9 mm leadless ceramic. RoHS compliant.





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Dimensions, Marking, and Pin Out Information:

1 Tristate 2 Ground 3 Output 4 + Vgo 0 Line 2 1 Line 3 Mygwwyw Wark week w/w Factory code 0 0.000 4 + Vgo 0 0.000 0 0.000 0 0.000 0 0.000 0 0.000 0 0.000 0 0.000 0 1000 0 1000 0 1000 0 1000 0 1000 0 1000 0 1000 10 1000 0 1000 0 1000 0 10000 0 10000 0 10000 0 10000 0 0.0075(1:00) 0 0.000 0 0.000 0 0 0 0 0 0 <	Pad	Function	P	art Marking		Legend
3 Output vv Factory code 4 +Vuo vv Factory code SUGGESTED SOLDER PAD LAYOUT 0.276 ±0.008 0.276 ±0.008 0.055 0.197 ±0.008 0.197 ±0.008 0.055 0.197 ±0.008 0.047 (1.20) TVP 0.102 Pad 1 Designator 0.047 (1.20) TVP 0.107 Tungsten base metal with 50 -350 0.079 (2.00) 0.075 (1.90) MAX 0.079 (2.00) CRMP-UP 0.075 (1.90) MAX OCRECIND MAX. OCRECIND MAX. OCRECIND MAX. OUTO SECOND MAX. TIME			Line 1			
4 +Vbp 0,200 SUGGESTED SOLDER PAD LAYOUT 0,200 0,005 0,100 0,001 0,107 0,001 0,107 0,001 0,107 0,001 0,107 0,001 0,107 0,001 0,107 0,001 0,107 0,001 0,107 0,001 0,107 0,001 0,107 0,001 0,107 0,001 0,007 1,001 0,007 1,001 0,007 0,007 0,007 0,007 0,007 0,007 0,007 0,007 0,007 0,007 0,007 0,007 0,007 0,007 0,007 0,007 0,007 0,007 0,007 0,007 0,007 0,007 0,007 0,007 0,007 0,007 0,007 0,007 0,007 0,007 0,007 0,007	2	Ground	Line 2			Work week
OUTOR OUTOR <td< th=""><th></th><th>Output</th><th>Line 3</th><th>M yy ww vv</th><th>vv</th><th>Factory code</th></td<>		Output	Line 3	M yy ww vv	vv	Factory code
0.276 ±0.008 (5.08) TYP 0.055 0.020 0.001 0.071 1 0.197 ±0.003 0.197 ±0.003 0.047 (1.20) TYP TYP 0.1 mFd 0.079 (2.00) Pad 1 Designator 0.047 (1.20) TYP All dimensions 0.079 (2.00) 0.079 (2.00) Turgsten base metal with 50 - 350 in inches (mm) 0.079 (2.00) 0.079 (2.00) 0.079 (2.00) 0000 0000 0000 0000 0.079 (2.00) 0.079 (2.00) 0.079 (2.00) 0000 0000 0000 0000 0.079 (2.00) 0.079 (2.00) 0.079 (2.00) 0000 0000 0000 0000 0.079 (2.00) 0.079 (2.00) 0.079 (2.00) 0000 0000 0000 0000 0.079 (2.00) 0.079 (2.00) 0.079 (2.00) 0000 0000 0000 0000 0.079 (2.00) 0.079 (2.00) 0.079 (2.00) 0000 0000 0000 0000 0000 0.079 (2.00) 0.079 (2.00) 0000 0000 0000 0000 0000 0000 0000 0.079 (2.00) 00000	4	+V _{DD}				
Prevention of the second state of the second s		0.276 ±0.008 (7.00 ±0.20) Pad 1 Pad 1 0.197 ±0.008 (5.00 ±0.20) Pad 1 Designator Terminations (4 pl Tungsten base m µinches nickel foll	(5.08) ТҮР 0.047 (1.20) ТҮР– Naces): netal with 50 - 350 Nowed by 11.8 - 39.4 µi	0.055 - (1.40) 0.102 TYP (2.60) TYP .01 mFd All dimer nches gold. in inches		$\begin{array}{c} \bullet \bullet$
ı ıyure i		150°C	CONDS MAX.		PAMP-D -6°C/SEC	OND MAX.
			י יש			

DATA SHEET REVISION TABLE:

Date	Rev.	Author	Details of Revision
5/16/12	0	LEO	Original release.
7/31/12	А	MM	Updated symmetry, rise/fall time and startup time specifications.

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