

SPECIFICATION FOR 1.8V SMT OSCILLATOR

MtronPTI P/N M2180S034

Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency of Operation	F _O		100.000000		MHz	
Frequency Stability						
Frequency Stability	ΔF/F	-50		+50	ppm	Includes initial accuracy @ +25°C, operating temperature, supply voltage, shock and vibration (not under operation) and 10 years aging.
RF Output						
Output Type		HCMOS/TTL Compatible				
Output Load				15	pF	
Symmetry (duty cycle)	T _{DC}	45	50	55	%	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
Output Logic High Drive	I _{OH}	8			mA	
Output Logic Low Drive	I _{OL}	8			mA	
Output Leakage				±10	uA	Output Disabled
Disable Time				100	ns	
Rise/Fall Time	T _R /T _F		1.5	2.5	ns	10% to 90% V _{DD} HCMOS load
Tristate Control	T _{SU}	70% V _{DD} or NC			V	Pin1: Enables output.
				30% V _{DD}	V	Pin1: Output disabled to high-Z
Start-Up Time				10	mS	
Supply Voltage & Power Consumption						
Operating Voltage	V _{DD}	1.71	1.80	1.89	V	
Operating Current	I _{DD}			25	mA	CMOS Load
Current Output Disabled				30	uA	
Additional Specifications						
Phase Noise			-106		dBc/Hz	@ 100 Hz
			-127		dBc/Hz	@ 1 kHz
			-135		dBc/Hz	@ 10 kHz
			-141		dBc/Hz	@ 100 kHz
			-149		dBc/Hz	@ 1 MHz
Period Jitter	P _J		2.7		ps	RMS
			19		ps	Peak to Peak
			±80	±100	ps	Cycle to Cycle, 90k Samples
Phase Jitter	Φ _J		0.2	0.5	ps RMS	Integrated from: 12 KHz to 20 MHz

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Environmental & Mechanical Requirements:

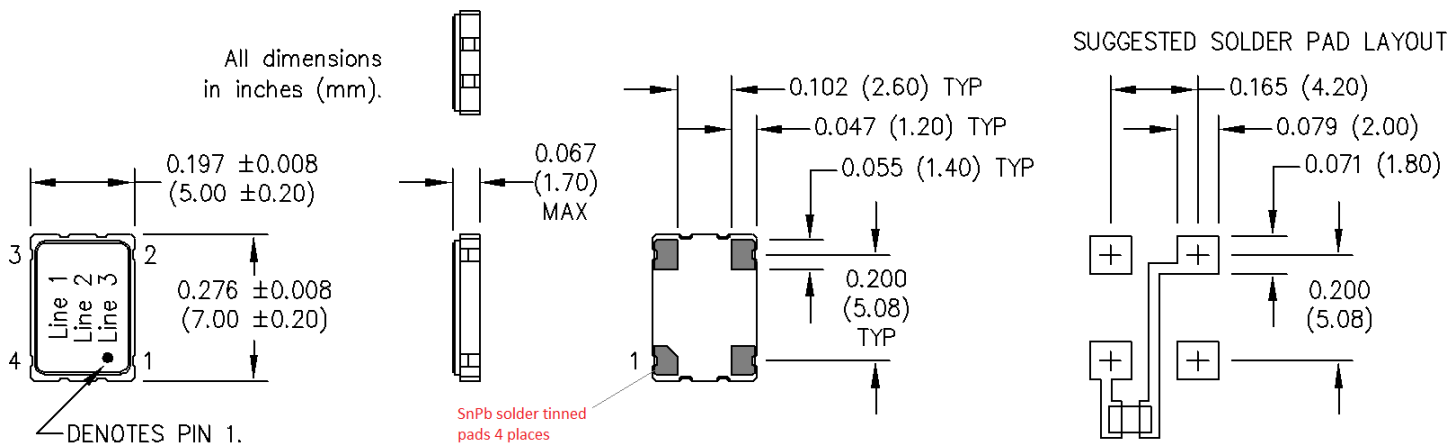
Operating Temperature	T _A	-40		+85	°C	
Storage Temperature	T _S	-55		+125	°C	
Mechanical Shock	Per MIL-STD-202, Method 213, Condition C (100 g's, 6 ms duration, ½ sine wave)					
Vibration	Per MIL-STD-202, Method 201 & 204 (10 g's from 10-2000 Hz)					
Thermal Cycle	Per MIL-STD-883, Method 1010, B (-55°C 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	4-pad 5.0 X 7.0 X 1.8 mm leadless ceramic. SnPb solder tinned pads					

Dimensions, Pin Out, and Marking Information:

Pad	Function
1	Tristate Control
2	Ground
3	Output
4	+V _{DD}

Part Marking	
Line 1	M2180S034
Line 2	100M0000
Line 3	M yywwvv

Legend	
yy	Year
ww	Work week
vv	Factory code



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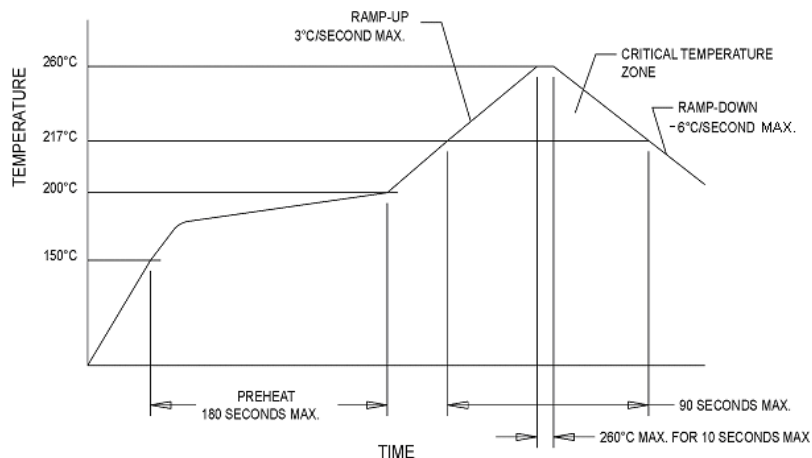


Figure 1

DATA SHEET REVISION TABLE:

Date	Rev.	Author	Details of Revision
06/26/17	0	MM	Original release.