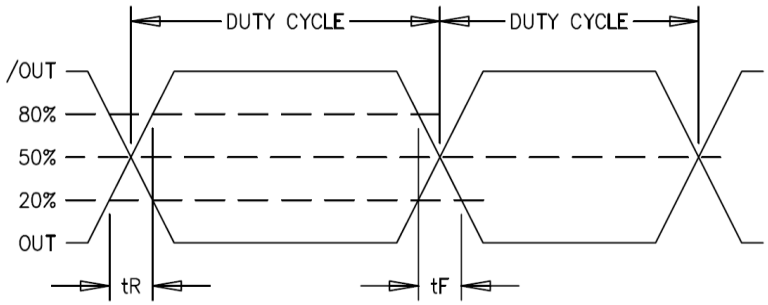
MtronPTI ...when timing matters

SPECIFICATION FOR 5x7mm LVPECL SMT OSCILLATOR
MtronPTI P/N: M2100S128

Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency of Operation	F_O		1090.000000		MHz	
Frequency Stability						
Frequency Stability	ΔF/F	-250		+250	ppm	Includes initial tolerance, deviation over operating temperature, variations to supply voltage, load, vibration, shock and 1st year aging.
Aging		-5		+5	ppm	1st year
RF Output						
Output Type		LVPECL Compatible				
Output Load		50 Ω to (Vcc-2) VDC			V	
Symmetry (duty cycle)	T_{DC}	45		55	%	Ref. to 50% of waveform
Logic Level "1"		V_{cc}-1.02			V	
Logic Level "0"				V_{cc}-1.63	V	
Rise/Fall Time	T_R/T_F			0.5	ns	From 20% to 80% V_{DD}
Start-up Time	T_{SU}			10	ms	T_{amb} = +25°C
Supply Voltage & Power Consumption						
Operating Voltage	V_{CC}	3.135	3.3	3.465	V	
Supply Current	I_{CC}			130	mA	
Other Parameters						
Phase Noise			-105		dBc/Hz	@ 1 kHz Offset
			-112		dBc/Hz	@ 10 kHz Offset
			-117		dBc/Hz	@ 100 kHz Offset
			-129		dBc/Hz	@ 1 MHz Offset
Phase Jitter (RMS)	$Φ_J$			300	fs	12KHz to 20MHz
Phase Jitter (RMS)	$Φ_J$			250	fs	50KHz to 80MHz

Output Waveform:



...when timing matters

SPECIFICATION FOR 5x7mm LVPECL SMT OSCILLATOR
MtronPTI P/N: M2100S128

Environmental & Packaging Requirements:

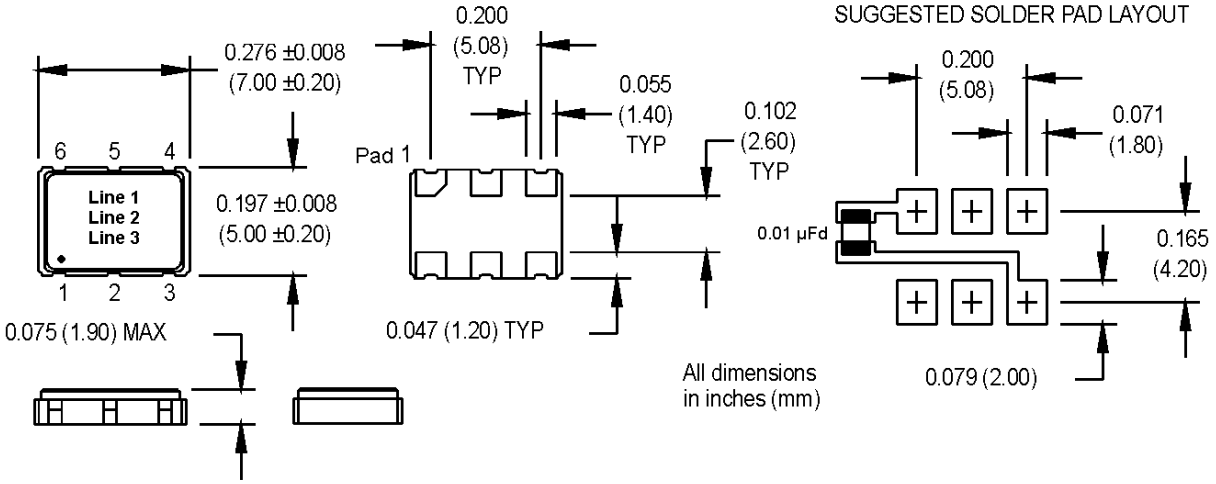
Operating Temperature	T_A	-55		+105	°C	
Storage Temperature	T_S	-55		+125	°C	
Mechanical Shock	Per MIL-STD-202, Method 213, Condition C (100 g's, 6 ms duration, ½ sinewave)					
Vibration	Per MIL-STD-202, Method 201 & 204 (10 g's from 10-2000 Hz)					
Thermal Cycle	Per MIL-STD-883, Method 1010, B (-55°C to 125°C, 15 min. dwell, 10 cycles)					
Hermeticity	Per MIL-STD-202, Method 112 (1 x 10^{-8} atm cc/s of Helium)					
Moisture Sensitivity Level (MSL)	MSL 1					
Solderability	Per EIAJ-STD-002					
Max. Soldering Conditions	See solder profile, Figure 1					
Package Type	6-pad 5.0 X 7.0 X 1.9 mm leadless ceramic. RoHS compliant.					

Dimensions, Marking, Pin Out:

Pad	Function
1	N/C
2	N/C
3	Ground
4	Output
5	Complementary Output
6	+V_{CC}

Part Marking	
Line 1	M2100S128
Line 2	1090M0000
Line 3	MPTI yyww

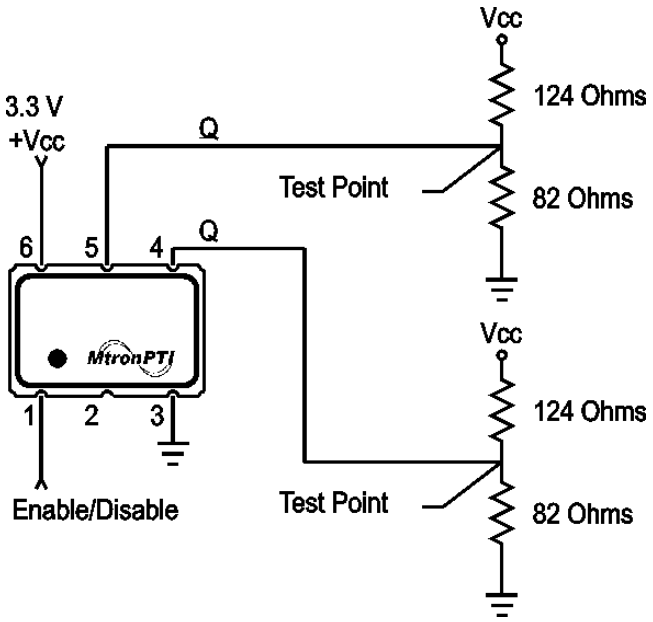
Legend	
yy	Year
ww	Work Week



...when timing matters

SPECIFICATION FOR 5x7mm LVPECL SMT OSCILLATOR
MtronPTI P/N: M2100S128

Typical Test Circuit & Load Circuit Diagrams:



Soldering Conditions:

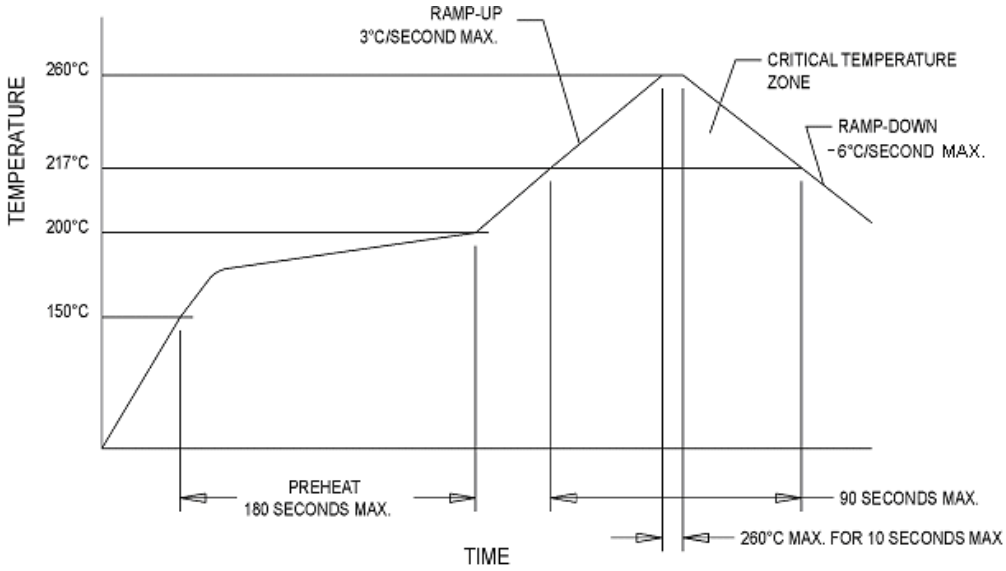


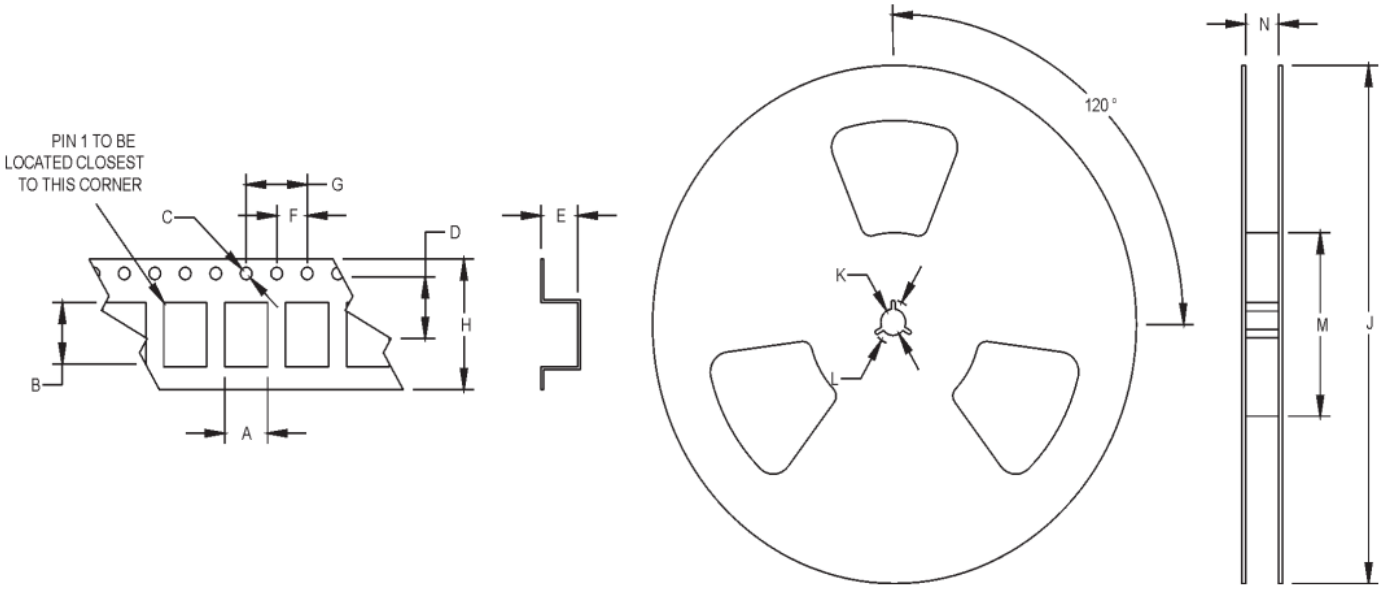
Figure 1

...when timing matters

SPECIFICATION FOR 5x7mm LVPECL SMT OSCILLATOR
MtronPTI P/N: M2100S128

Tape and Reel Specifications:

All units in mm



Tape and Reel Specifications											
A	B	C	D	E	F	G	H	J	K	L	M
5.32	7.28	1.5	7.5	2.2	4	8	16	178	13.5	24.8	80

Datasheet Revision Table:

Date	Rev.	Author	Details of Revision
05/16/18	0	MM	Original release.