...when timing matters

M2700/M2701 Series
SPECIFICATION FOR 5.0x7.0mm CMOS SMT OSCILLATOR

FEATURES

CMOS Output
Low RMS Jitter Performance 12 kHz to 20 MHz
(1 ps max, 156.25 MHz)
RoHS 6/6 Compliant

APPLICATIONS

Base station controllers
Ethernet
Test and Measurement

Ordering Information:

Product Family (Supply Voltage Option)	Temperature Range		Stability		Enable/Disable		Logic Type		Package/Lead Configuration		Frequency MHz
	Code	Value	Code	Value	Code	Value	Code	Value	Code	Value	
M2700 (3.3V) **M2701** (2.5V)	**6** **2**	-20 °C to +70 °C -40 °C to +85 °C	**3** **4** **6** **8**	±100 ppm ±50 ppm ±25 ppm ±20 ppm	**T**	Enable High (pad 1)	**C**	CMOS 45/55	**N**	Leadless	XXX.XXXXXX
Example: M270024TCN 100.000000 MHz											
M2700	**2**		**4**		**T**		**C**		**N**		**100.000000**

Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency of Operation	F_O	10		250	MHz	
Frequency Stability						
Frequency Stability	ΔF/F	See ordering information				
Aging			±2		ppm	1st year
RF Output						
Output Type		CMOS Compatible				
Output Load		15 pF CMOS load				
Symmetry (duty cycle)		45		55	%	Ref. to 50% Vdd
Logic Level "0"	V_{OL}			10% Vdd	V	
Logic Level "1"	V_{OH}	90% Vdd			V	
Rise/Fall Time	T_R/T_F			5	ns	10% Vdd to 90% Vdd
Start-up Time	T_{SU}			10	ms	$T_{ambient}$ = +25°C
Enable Logic (Pad 1)		70% V_{CC} or N/C			V	Output Enabled
Disable Logic (Pad 1)				30% V_{CC}	V	Output Disabled to high-Z
Supply Voltage & Power Consumption						
Operating Voltage	V_{CC}	3.135	3.300	3.465	V	(M2700)
		2.375	2.500	2.625	V	(M2701)
Supply Current	I_{CC}			60	mA	

Revision B
10/09/17

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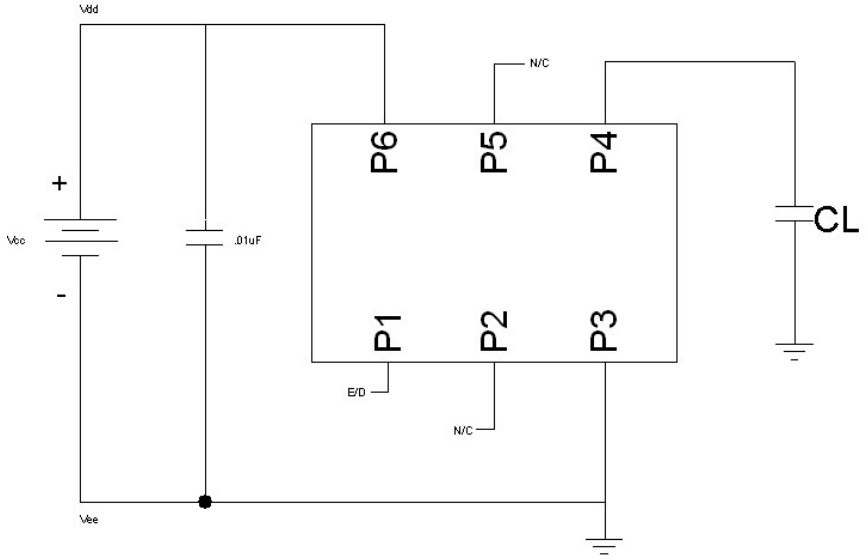
Environmental & Packaging Requirements:

Storage Temperature	-55°C to 125°C
Mechanical Shock	Per MIL-STD-202, Method 213, Condition C (100 g's, 6 ms)
Vibration	Per MIL-STD-202, Method 204D, Condition C (10 g's, 55 – 2000 Hz)
Aging	+85°C ±3°C, 720H (No BIAS)
Humidity	+40°C ±2°CX90~95%, 96H (NO BIAS)
Thermal Cycle	Per MIL-STD-883, Method 1010, Condition B (-55 °C to +125 °C, 10 cycles)
Hermeticity	Per MIL-STD-202, Method 112 (1 x 10^{-8} atm cc/s of Helium)
Moisture Sensitivity Level	MSL1
Solderability	Per EIAJ-STD-002, Method 208
Max. Soldering Conditions	See solder profile, Figure 1
Pad Termination	Gold, 1 µm maximum thickness
Package Type	6-pad 5.0 X 7.0 mm leadless ceramic. RoHS compliant.

Typical CMOS Test Circuit & Load Circuit Diagrams:



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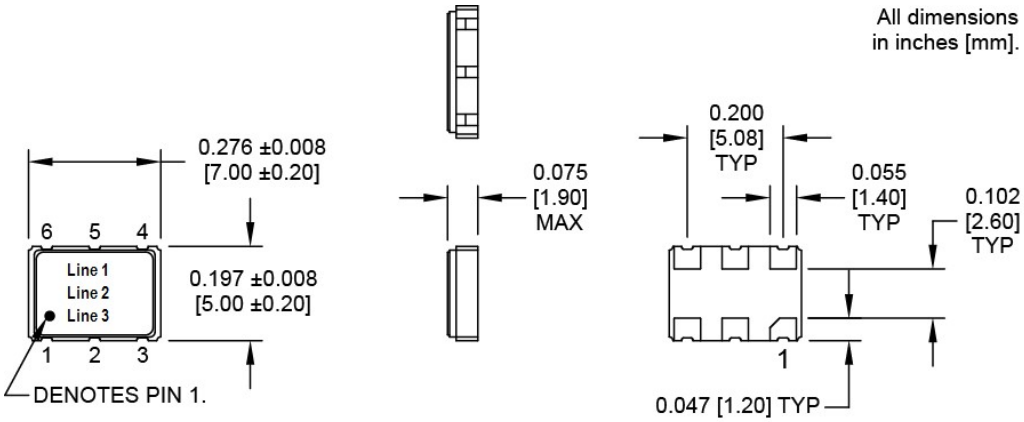
Marking, Pin Out:

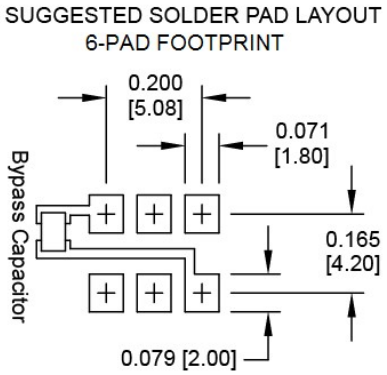
Pad	Function
1	Enable/Disable
2	No Connection
3	Ground
4	Output
5	No Connection
6	+V_{CC}

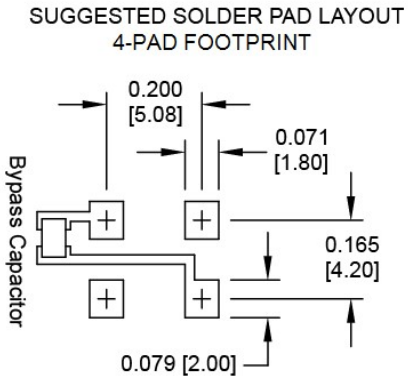
Part Marking	
Line 1	[part designation]
Line 2	FFFMFFFF
Line 3	M yy ww vv

Legend	
M	MtronPTI
F	Frequency
yy	Year
ww	Work Week
vv	Factory code

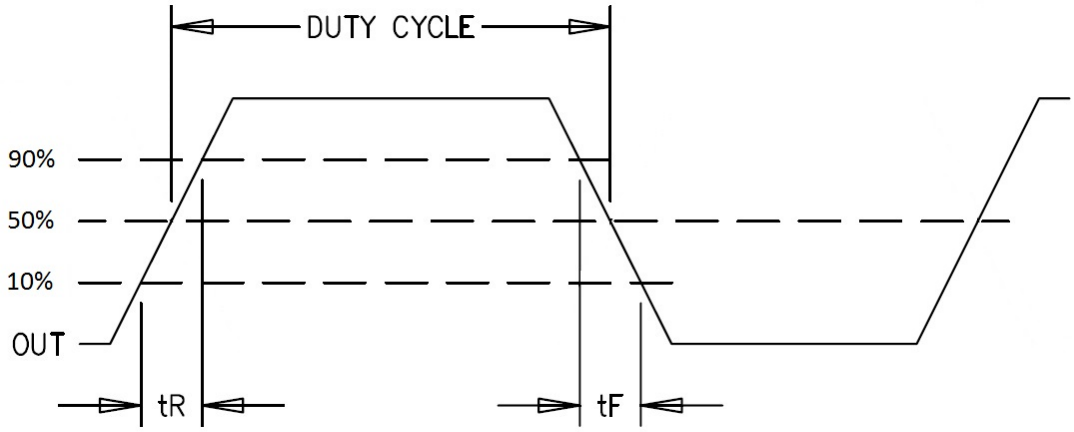
Dimensions:







Output Waveform:



Soldering Conditions:

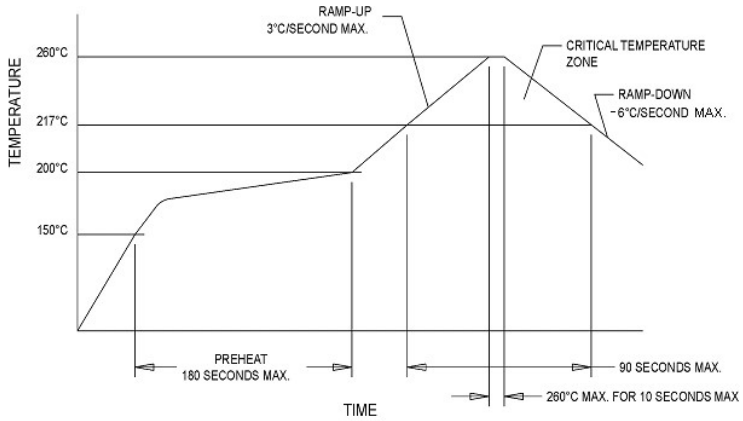
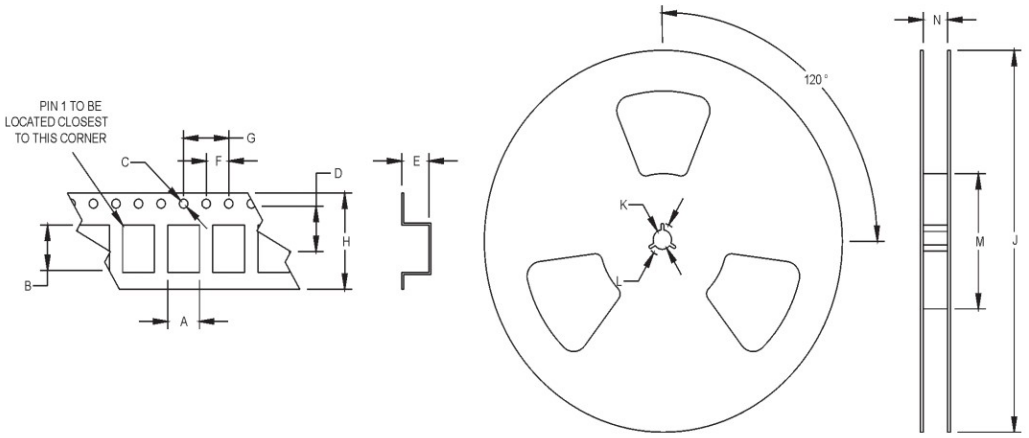


Figure 1

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