

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

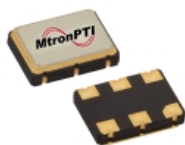
Ordering Information:

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)	6	-20 °C to +70 °C	3	±100 ppm	T	Enable High (pad 1)	C	CMOS	N	Leadless	XXX.XXXXXX
M2701 (2.5V)	2	-40 °C to +85 °C	4	±50 ppm				45/55			
			6	±25 ppm							
			8	±20 ppm							
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		-3		+3	ppm	1 st year
RF Output						
Output Type		CMOS Compatible				
Output Load		15 pF CMOS load				
Symmetry (duty cycle)		45		55	%	Ref. to 50% V _{dd}
Logic Level "0"	V _{OL}			10% V _{dd}	V	
Logic Level "1"	V _{OH}	90% V _{dd}			V	
Rise/Fall Time	T _R /T _F			5	ns	10% V _{dd} to 90% V _{dd}
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 A
08/01/16

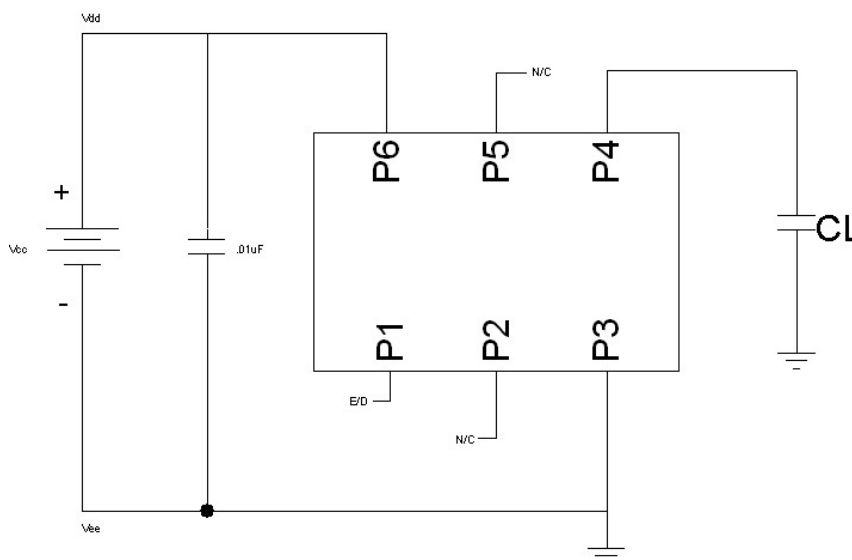


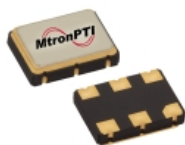
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Environmental & Packaging Requirements:

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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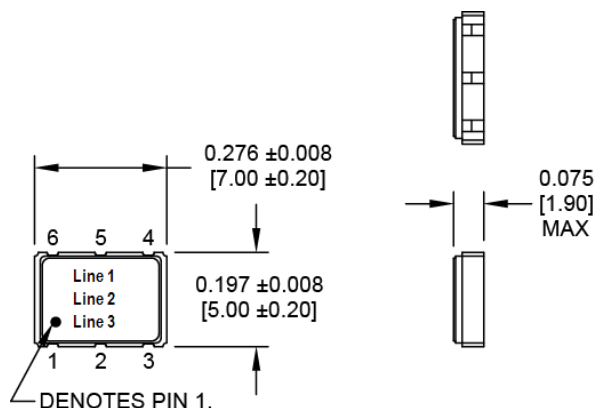
Marking, Pin Out:

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

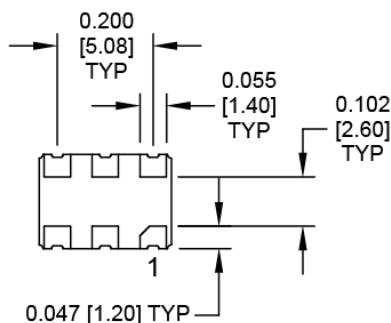
Part Marking	
Line 1	[part designation]
Line 2	FFFMFFFF
Line 3	M yy ww vv

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

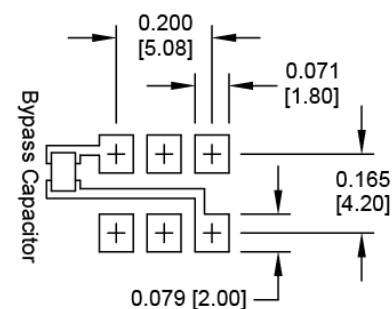
Dimensions:



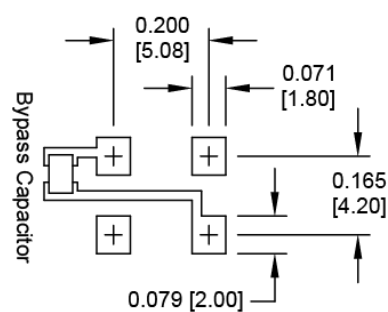
All dimensions
in inches [mm].

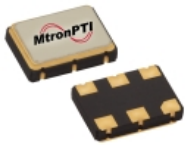


SUGGESTED SOLDER PAD LAYOUT 6-PAD FOOTPRINT



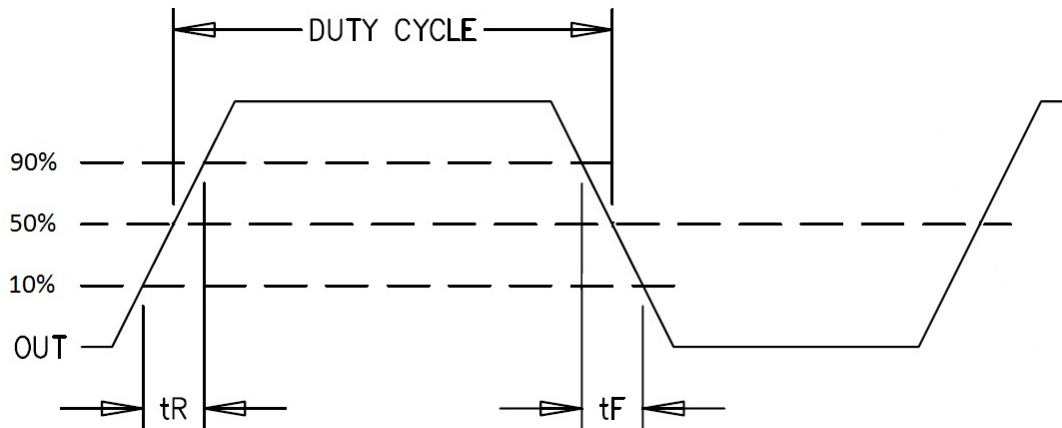
SUGGESTED SOLDER PAD LAYOUT 4-PAD FOOTPRINT





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Output Waveform:



Soldering Conditions:

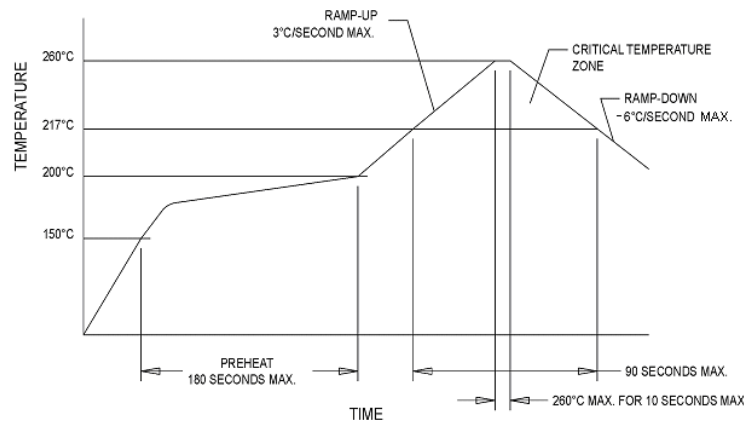
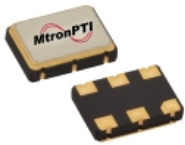


Figure 1

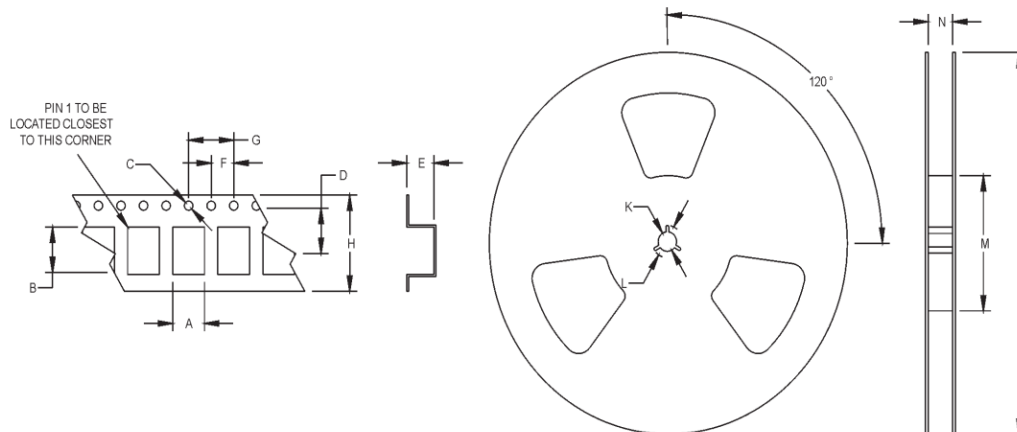


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Tape and Reel Specifications:

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