

M2035, M2036 and M2037 Series SPECIFICATION FOR 5.0 x 7.0 x 1.4 mm, CMOS SMT OSCILLATOR

FEATURES

CMOS Output
±20 ppm Stability Available
RoHS 6/6 Compliant

APPLICATIONS

Low power applications
Broadband Access
Test and Measurement

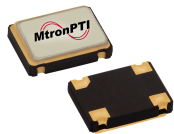
Ordering Information:

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	
M2035 (2.85V)	D	-10 °C to +70 °C	3	±100 ppm	Q	Standby (pad 1)	C	CMOS	N	Leadless	XXX.XXXXXX
M2036 (3.0V)	6	-20 °C to +70 °C	4	±50 ppm	T	Enable High (pad 1)		45/55			
M2037 (3.3V)	2	-40 °C to +85 °C	6	±25 ppm			G	CMOS			
			8	±20 ppm				40/60			
Example: M203764TCN 100.000000 MHz											
M2037	6		4		T		C		N		100.000000

* Stability includes initial tolerance @ +25°C, deviation over temperature, variations to supply, load, vibration, shock and aging.

Electrical Specifications:

Parameter	Symbol	Min.	Typ.	Max.	Units	Conditions
Frequency of Operation	F _O	1.5		125	MHz	
Frequency Stability						
Frequency Stability	ΔF/F	See ordering information				
RF Output						
Output Type		CMOS Compatible				
Output Load				15	pF	CMOS load
Symmetry (duty cycle)		45	50	55	%	Ref. to 50% Vdd
Rise/Fall Time 1.000 to 50.000 MHz 50.001 to 80.000 MHz 80.001 to 125.000 MHz	T _R /T _F			6 4 2	ns	10% Vdd to 90% Vdd
Logic Level “1”	V _{OH}	90% Vdd			V	
Logic Level “0”	V _{OL}			10% Vdd	V	
Output Current	I _{OH}	-2			mA	
	I _{OL}	+2			mA	
Start-up Time	T _{SU}			5	ms	T _{ambient} = +25°C
Standby Current				10	uA	
Tristate/Standby Function		Pad 1, High or floating: clock signal output Pad 1, low: output disables to high impedance				
Output Disable Time				150	ns	
Output Enable Time				5	ms	
Supply Voltage & Power Consumption						
Operating Voltage	V _{CC}	3.15	3.30	3.45	V	(M2037)
	V _{CC}	2.85	3.00	3.15	V	(M2036)
		2.70	2.85	3.00	V	(M2035)
Supply Current 1.500 to 20.000 MHz 20.001 to 50.000 MHz 50.001 to 67.000 MHz 67.001 to 125.000 MHz	I _{CC}			15 20 30 55	mA	3.3V

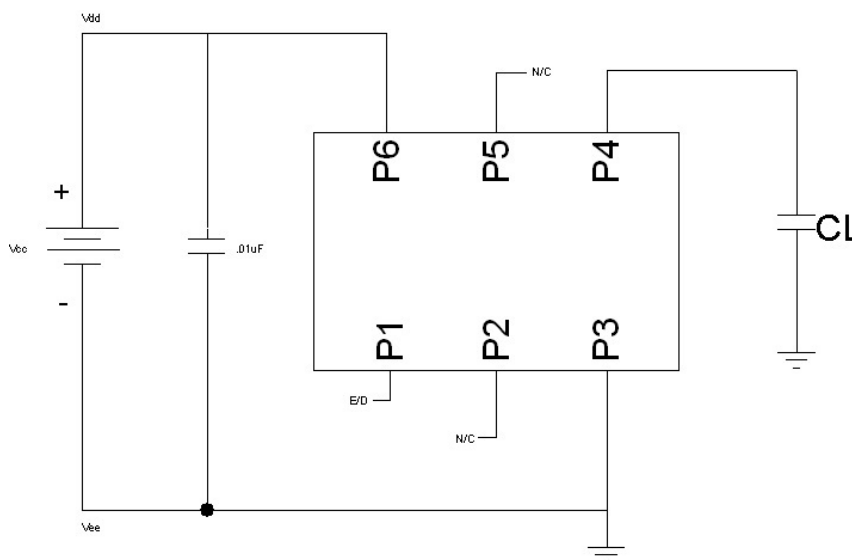


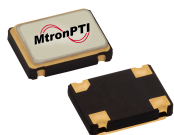
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Environmental & Packaging Requirements:

Storage Temperature	-55°C to 125°C
Mechanical Shock	Per MIL-STD-202, Method 213, Condition C
Vibration	Per MIL-STD-202, Method 201 & 204
Moisture Sensitivity Level	MSL1
Max. Soldering Conditions	See solder profile, Figure 1
Pad Termination	Gold, 1 µm maximum thickness
Package Type	4-pad 5.0 x 7.0 x 1.4 mm leadless ceramic. RoHS compliant.

Typical CMOS Test Circuit & Load Circuit Diagrams:





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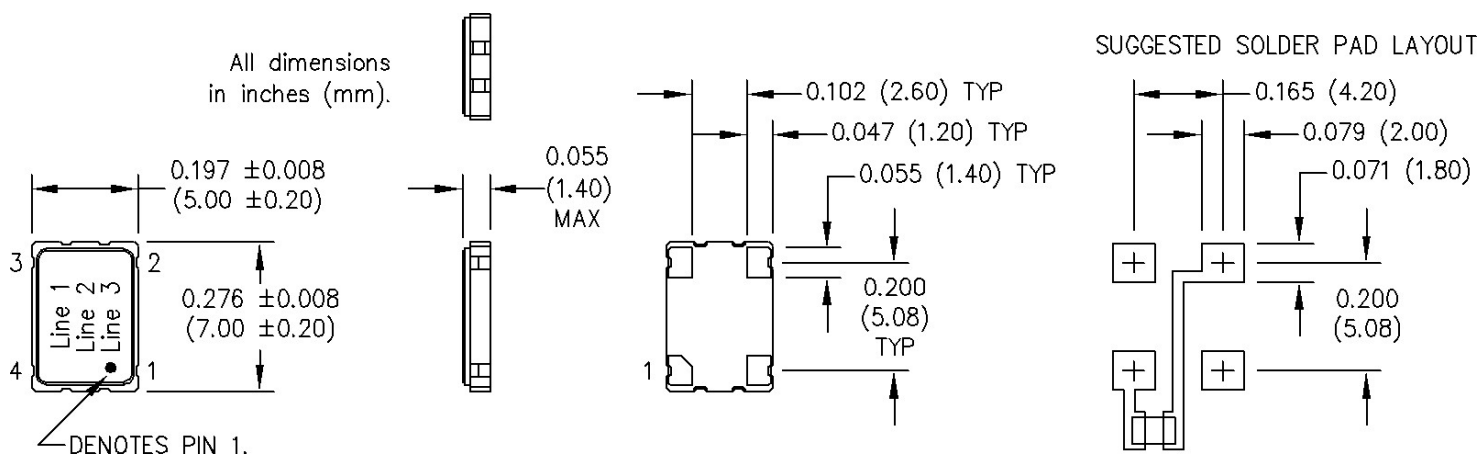
Marking, Pin Out:

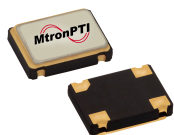
Pad	Function
1	Tristate/Standby
2	Ground
3	Output
4	+V _{CC}

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

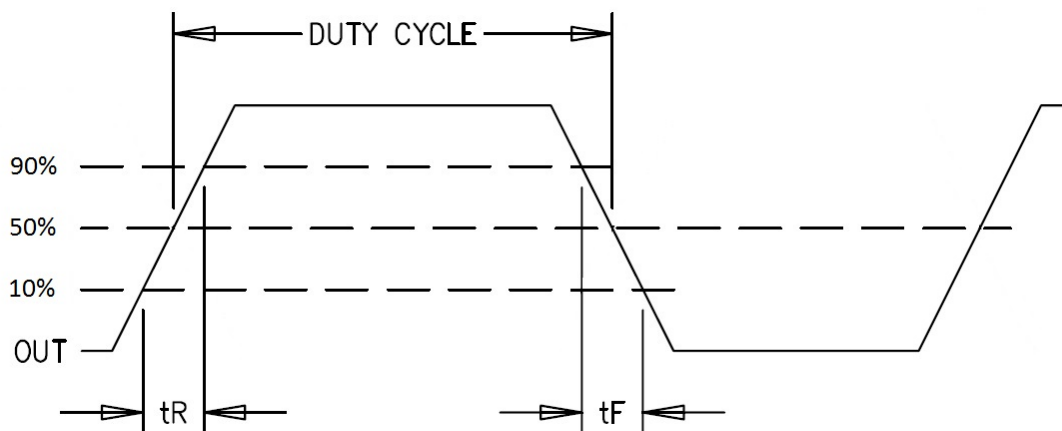
Dimensions:





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Output Waveform:



Soldering Conditions:

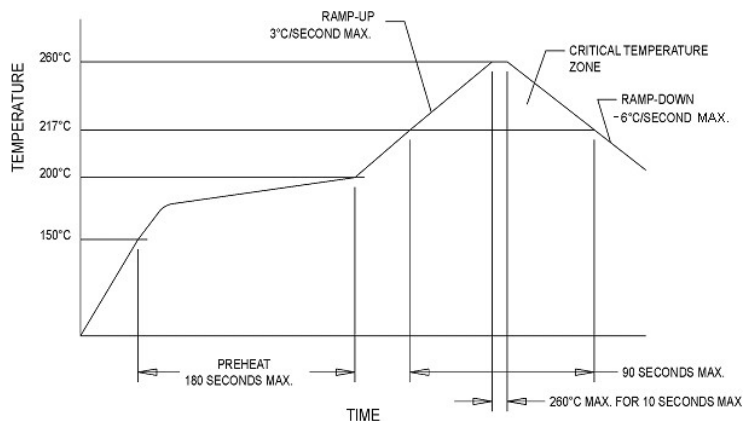
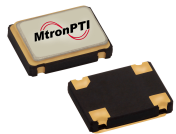


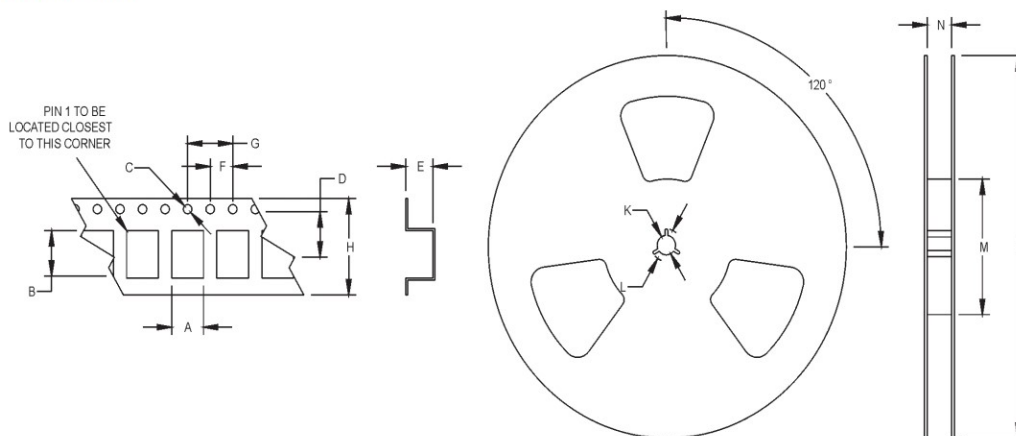
Figure 1



M2035, M2036 and M2037 Series SPECIFICATION FOR 5.0 x 7.0 x 1.4 mm, CMOS SMT OSCILLATOR

Tape and Reel Specifications:

All units in mm



Tape and Reel Specifications											
A	B	C	D	E	F	G	H	J	K	L	M
5.52	7.48	1.5	7.5	2.15	4	8	16	178	13	21	80