

# M2035, M2036, and M2037 Series

## 5.0 x 7.0 x 1.4 mm, HCMOS Compatible Surface Mount Oscillators

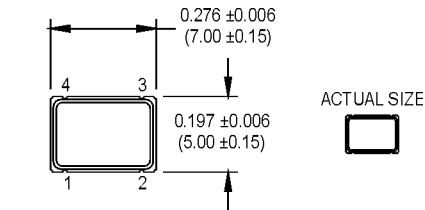


- $\pm 20$  ppm stability
- Tri-state or standby function
- Ideal for WLAN and IEEE802.11 Applications
- Low power applications

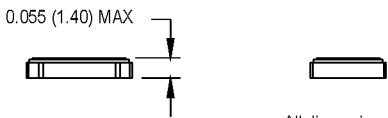


Ordering Information	
M203X	D 8 Q C N 00.0000 MHz
Product Series	M2035 = 2.85V M2036 = 3.0V M2037 = 3.3V
Temperature Range	D: -10°C to +70°C 6: -20°C to +70°C 2: -40°C to +85°C
Stability	3: $\pm 100$ ppm    4: $\pm 50$ ppm 6: $\pm 25$ ppm    8: $\pm 20$ ppm*
Output Type	Q: Standby Function T: Tri-state
Symmetry/Logic Compatibility	C: 45/55 HCMOS    G: 40/60 HCMOS
Package/Lead Configurations	N: Leadless
Frequency (customer specified)	

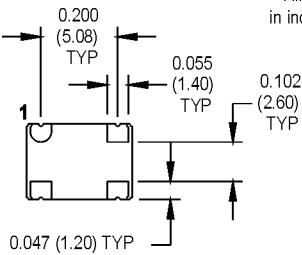
\*-10°C to +70°C only



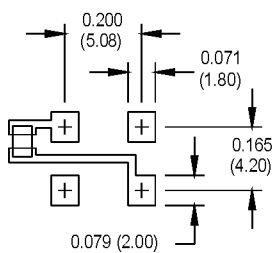
ACTUAL SIZE



All dimensions in inches (mm).



### SUGGESTED SOLDER PAD LAYOUT



### Pin Connections

PIN	FUNCTION
1	Tri-state/Standby
2	Ground
3	Output
4	+Vdd

	PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition
	Frequency Range	F	1.5		125	MHz	See Note 1
	Frequency Stability	$\Delta F/F$			$\pm 20$	ppm	See Note 2
	Operating Temperature	T <sub>A</sub>	(See Ordering Information)				
	Input Voltage	V <sub>dd</sub>	3.15 2.85 2.7	3.3 3.0 2.85	3.45 3.15 3.0	V	3.3V 3.0V 2.85V
	Input Current	I <sub>dd</sub>			15 20 30 55	mA	3.3V
			1.500 to 20.000 MHz				
			20.001 to 50.000 MHz				
			50.001 to 67.000 MHz				
			67.001 to 125.000 MHz				
	Symmetry (Duty Cycle)		45		55	%	1/2 V <sub>dd</sub>
	Rise/Fall Time	T <sub>r</sub> /T <sub>f</sub>			4 6	ns	See Note 2 10% to 90% V <sub>dd</sub> 10% to 90% V <sub>dd</sub>
			80.000 MHz				
			22.000 to 44.000 MHz				
	Logic "1" Level	V <sub>oh</sub>	90% V <sub>dd</sub>			V	
	Logic "0" Level	V <sub>ol</sub>			10% V <sub>dd</sub>	V	
	Output Current	I <sub>oh</sub>	-2			mA	
		I <sub>ol</sub>	+2			mA	
	Output Load				15	pF	
	Start-up Time				5	ms	
	Standby Current				10	μA	
	Tri-State/Standby Function		Pin 1 high or floating: clock signal output Pin 1 low: output disables to high impedance				
	Output Disable Time				150	ns	
	Output Enable Time				5	ms	
Environmental	Mechanical Shock	Per MIL-STD-202, Method 213, Condition C					
	Vibration	Per MIL-STD-202, Method 201 & 204					
	Reflow Solder Conditions	+260°C for 10 seconds max.					
	Hermeticity	Per MIL-STD-202, Method 112 (1 x 10 <sup>-6</sup> atm.cc/s of helium)					
	Solderability	Per EIAJ-STD-002					

1. Consult factory for available frequencies in this range
2. Inclusive of calibration, deviation over temperature, supply voltage change, load change, shock, vibration,

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# MtronPTI Lead Free Solder Profile

