

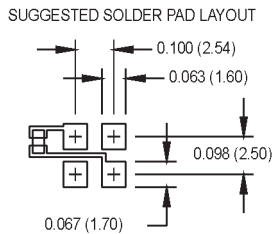
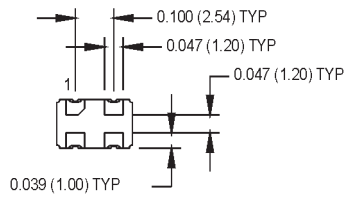
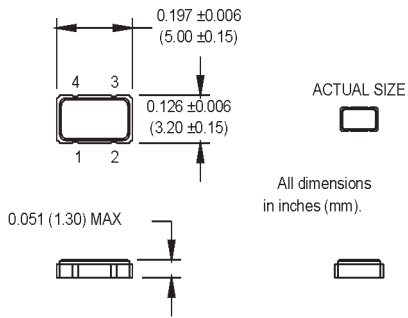
# M2032, M2033, and M2034 Series 3.2 x 5.0 x 1.3 mm HCMOS Compatible Surface Mount Oscillators



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



Ordering Information	
Product Series	M203X D 8 Q C N 00.0000 MHz
M2032 = 2.85V	
M2033 = 3.0V	
M2034 = 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: Tristate
Symmetry/Logic Compatibility	
C: 45/55 CMOS	G: 40/60 CMOS
Package/Lead Configurations	
N: Leadless	
Frequency (customer specified)	



## Pin Connections

PIN	Function
1	Standby/Tristate
2	Ground
3	Output
4	+Vdd

	PARAMETER	Symbol	Min.	Typ.	Max.	Units.	Condition
Electrical Specifications	Frequency Range	F	1.5		80	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	3.3	3.45	V	3.3V
			2.85	3.0	3.15	V	3.0V
			2.7	2.85	3.0	V	2.8V
	Input Current	I <sub>dd</sub>	1.500 to 20.000 MHz		15	mA	3.3V
			20.001 to 50.000 MHz		20	mA	
			50.001 to 80.000 MHz		45	mA	
	Symmetry (Duty Cycle)		45		55	%	1/2 V <sub>dd</sub>
	Rise/Fall Time	T <sub>r</sub> /T <sub>f</sub>	22.000 to 44.000 MHz		6	ns	10% to 90% V <sub>dd</sub>
			80.000 MHz		4	ns	
	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	ms		
Standby/Tristate 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	240°C for 10 s max					
	Hermeticity	Per MIL-STD-202, Method 112 (1 x 10 <sup>-8</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, and 10 years aging

MtronPTI reserves the right to make changes to the product(s) and service(s) described herein without notice. No liability is assumed as a result of their use or application.

Please see [www.mtronpti.com](http://www.mtronpti.com) for our complete offering and detailed datasheets. Contact us for your application specific requirements: MtronPTI 1-800-762-8800.