

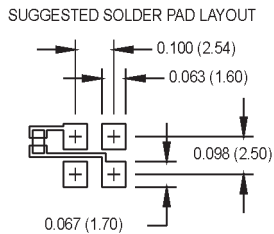
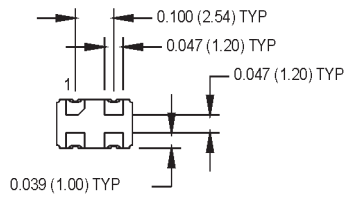
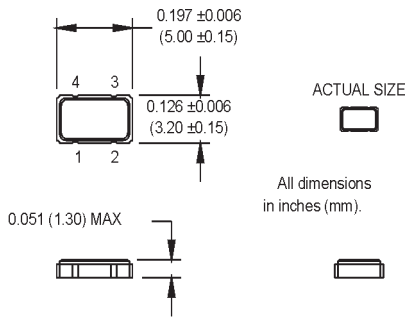
# M2032, M2033, and M2034 Series 3.2 x 5.0 x 1.3 mm HCMOS Compatible Surface Mount Oscillators



- $\pm 20$  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>				15	mA	3.3V
			1.500 to 20.000 MHz			20	mA	
			20.001 to 50.000 MHz			45	mA	
	Symmetry (Duty Cycle)			45		55	%	$\frac{1}{2}$ V <sub>dd</sub>
	Rise/Fall Time	T <sub>r</sub> /T <sub>f</sub>				6	ns	10% to 90% V <sub>dd</sub>
			22.000 to 44.000 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> I <sub>ol</sub>		-2			mA	
			+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

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