M2032, M2033, and M2034 Series

3.2 x 5.0 x 1.3 mm HCMOS Compatible Surface Mount Oscillators

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

RoHS Compliant

Ordering Information

M203X D 8 Q C N 00.0000 MHz

Product Series
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

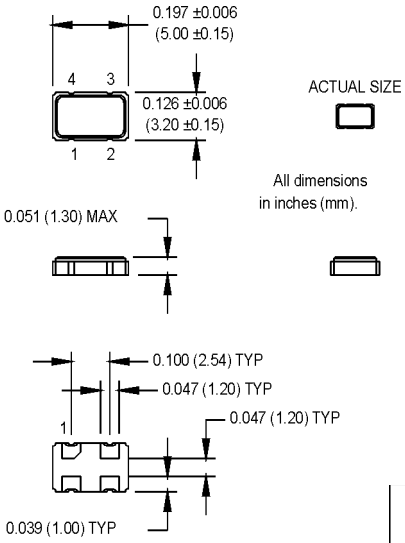
Stability
3: ±100 ppm **4:** ±50 ppm
6: ±25 ppm **8:** ±20 ppm **

Output Type
Q: Standby Function **T:** Tristate

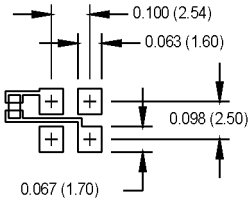
Symmetry/Logic Compatibility
C: 45/55 CMOS **G:** 40/60 CMOS

Package/Lead Configurations
N: Leadless

Frequency (customer specified)



SUGGESTED SOLDER PAD LAYOUT



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	ΔF/F			±20	ppm	See Note 2
	Operating Temperature	T_A	(See Ordering Information)				
	Input Voltage	Vdd	3.15 2.85 2.7	3.3 3.0 2.85	3.45 3.15 3.0	V V V	3.3V 3.0V 2.8V
	Input Current 1.500 to 20.000 MHz 20.001 to 50.000 MHz 50.001 to 80.000 MHz	Idd			 15 20 45	 mA mA mA	 3.3V
	Symmetry (Duty Cycle)		45		55	%	½ Vdd
	Rise/Fall Time 22.000 to 44.000 MHz 80.000 MHz	Tr/Tf			 6 4	 ns ns	 10% to 90% Vdd 10% to 90% Vdd
	Logic "1" Level	Voh	90% Vdd			V	
	Logic "0" Level	Vol			10% Vdd	V	
	Output Current	Ioh Lol	-2 +2			mA 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^{-8} 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 Lead Free Solder Profile