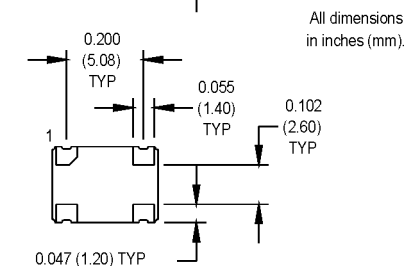
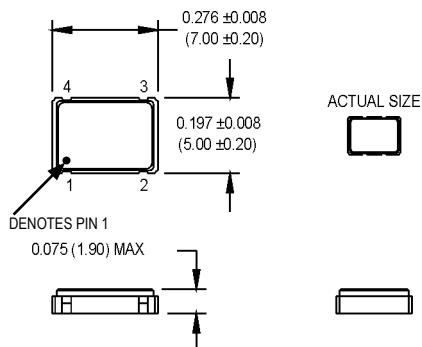
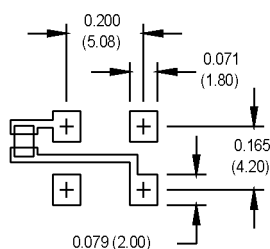


M1 Series

5x7 mm, 5.0 Volt, HCMOS/TTL, Clock Oscillator



SUGGESTED SOLDER PAD LAYOUT



NOTE: A capacitor of value 0.01 μF or greater between Vdd and Ground is recommended.

Pin Connections

PIN	FUNCTION
1	N/C or Tristate
2	Ground
3	Output
4	+Vdd

Ordering Information

	M1	1	3	F	A	N	00.0000 MHz
Product Series							
Temperature Range							
1: 0°C to +70°C							
2: -40°C to +85°C							
4: -55°C to +125°C							
6: -20°C to +70°C							
Stability							
3: ±100 ppm							
4: ±50 ppm							
5: ±35 ppm							
6: ±25 ppm							
*8: ±20 ppm							
Output Type							
F: Fixed							
T: Tristate							
Symmetry/Logic Compatibility							
A: 40/60 TTL/HCMOS (50.000 MHz and below)							
C: 45/55 HCMOS							
G: 40/60 HCMOS (50.001 to 100.000 MHz)							
Package/Lead Configurations							
N: Leadless							
Frequency (customer specified)							

*Contact Factory for Availability

Electrical Specifications	PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition/Notes
	Frequency Range	F	1.5		100	MHz	
	Operating Temperature	T _A	(See ordering information)				
	Storage Temperature	T _S	-55		+125	°C	
	Frequency Stability	ΔF/F	(See ordering information)				
	Aging						
	1 st Year			3		ppm	
	Thereafter (per year)			2		ppm	
	Input Voltage	Vdd	4.5	5.0	5.5	V	
	Input Current	Idd					
	1.500 to 20 MHz				20	mA	TTL/HCMOS
	20.001 to 50 MHz				35/45	mA	
	50.001 to 100 MHz				65	mA	
	Output Type						HCMOS/TTL
	Load						See Note 1
1.500 to 50 MHz		10 TTL or 50 pF					
50.001 to 67 MHz		50 pF Max					
67.001 to 100 MHz		15 pF Max					
Symmetry (Duty Cycle)		(See ordering information)				See Note 2	
Logic "1" Level	Voh	90% Vdd			V	HCMOS Load	
		Vdd –0.5			V	TTL Load	
Logic "0" Level	Vol			10% Vdd	V	HCMOS Load	
				0.5	V	TTL Load	
Output Current				±16	mA		
Rise/Fall Time	Tr/Tf					See Note 3	
1.500 to 67 MHz				10	ns		
67.001 to 125 MHz				3	ns		
Tristate Function		Input Logic "1" or floating; output active Input Logic "0"; output disables to high-Z					
Start up Time			5		ms		
Random Jitter	Rj		5	12	ps RMS	1-Sigma	
Environmental	Mechanical Shock	Per MIL-STD-202, Method 213, Condition C (100 g's, 6 ms duration, ½ sinewave)					
	Vibration	Per MIL-STD-202, Method 201 & 204 (10 g's from 10-2000 Hz)					
	Hermeticity	Per MIL-STD-202, Method 112, (1x10-8 atm. cc/s of Helium)					
	Thermal Cycle	Per MIL-STD-883, Method 1010, Condition B (-55°C to +125°C, 15 min. dwell, 10 cycles)					
	Solderability	Per EIAJ-STD-002					

1. TTL load - See load circuit diagram #1. HCMOS load - See load circuit diagram #2.
2. Symmetry is measured at 1.4 V with TTL load, and at 50% V_{dd} with HCMOS load.
3. Rise/Fall times are measured between 0.5 V and 2.4 V with TTL load, and between 10% V_{dd} and 90% V_{dd} with HCMOS load.

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 for our complete offering and detailed datasheets. Contact us for your application specific requirements: MtronPTI 1-800-762-8800.

Revision: 03-13-07

MtronPTI Lead Free Solder Profile

