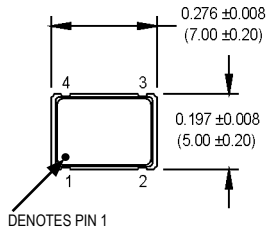
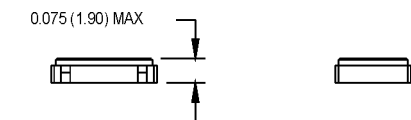


M1 Series

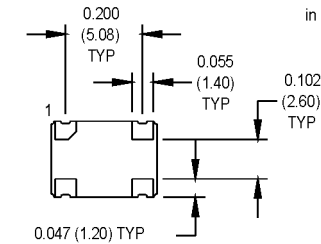
5x7 mm, 5.0 Volt, HCMOS/TTL, Clock Oscillator



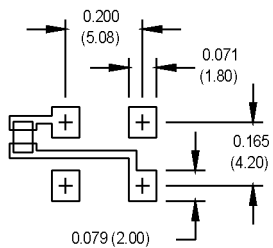
ACTUAL SIZE



All dimensions in inches (mm).



SUGGESTED SOLDER PAD LAYOUT



NOTE: A capacitor of value 0.01 μ F 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

Product Series	M1	1	3	F	A	N	00.0000 MHz
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

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	AF/F	(See ordering information)				
Aging						
1 st Year			3		ppm	
Thereafter (per year)			2		ppm	
Input Voltage	V _{dd}	4.5	5.0	5.5	V	
Input Current	I _{dd}					
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			See Note 2
50.001 to 67 MHz			50 pF Max			
67.001 to 100 MHz			15 pF Max			
Symmetry (Duty Cycle)		(See ordering information)				
Logic "1" Level	V _{oh}	90% V _{dd}			V	HCMOS Load TTL Load
	V _{dd} -0.5				V	
Logic "0" Level	V _{ol}			10% V _{dd}	V	HCMOS Load TTL Load
				0.5	V	
Output Current				± 16	mA	
Rise/Fall Time	T _r /T _f			10	ns	See Note 3
1.500 to 67 MHz				3	ns	
67.001 to 125 MHz						
Tristate Function		Input Logic "1" or floating; output active Input Logic "0"; output disables to high-Z				
Start up Time			5		ms	
Random Jitter	R _j		5	12	ps RMS	1-Sigma
Mechanical Shock		Per MIL-STD-202, Method 213, Condition C (100 g's, 6 ms duration, ½ sine wave)				
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

