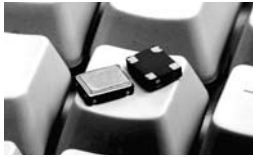


MM Series

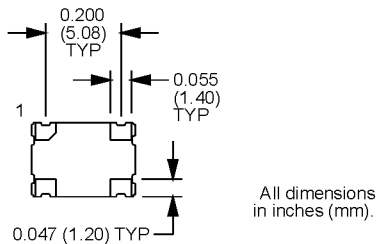
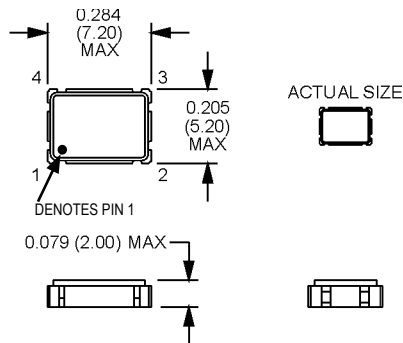
5x7 mm, 5 Volt, HCMOS/TTL, Surface Mount Oscillator



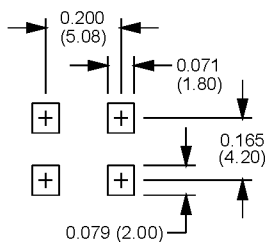
**THIS PRODUCT IS NOT RECOMMENDED FOR NEW DESIGNS.
PLEASE REFER TO THE M1 PRODUCT SERIES.**



- AT-strip crystal in a miniature ceramic surface mount package.
- TTL and HCMOS compatible
- Tri-state output is optional



SUGGESTED SOLDER PAD LAYOUT



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

PIN	FUNCTION
1	N/C or Tri-state
2	Ground
3	Output
4	+Vdd

Tri-state Control Logic

Pin 1 high or floating: clock signal output.

Pin 1 low: output disabled to high impedance.

Ordering Information

Product Series	MM	1	3	T	A	N	00.0000 MHz
Temperature Range	1: 0°C to +70°C	2: -40°C to +85°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 HCMOS/TTL (Up to 50.000 MHz)						
	C: 45/55 HCMOS						
	G: 40/60 HCMOS (50.001 to 67.000 MHz)						
Package/Lead Configurations	N: Leadless						
Frequency (customer specified)							

Electrical Specifications

Standard Operating Conditions • 0°C to +70°C; Vdd = 5.0 $\pm$ 10% VDC

Storage Temperature • -55°C to +125°C

	A SYMMETRY/LOGIC				
	TTL Load		HCMOS Load		
PARAMETERS	MIN.	MAX.	MIN.	MAX.	UNITS
Frequency Range ¹	1.500	50.000	1.500	50.000	MHz
Output Load ²		10		50	TTL/pF
Symmetry ³	40/60	60/40	40/60	60/40	%
Logic “0” Level		0.5		10% Vdd	V
Logic “1” Level	Vdd-0.5		90% Vdd		V
Rise/Fall Time ⁴		6		10	ns
Supply Current					
1.500 to 15.000 MHz		20		25	mA
15.001 to 32.000 MHz		25		30	mA
32.001 to 50.000 Mhz		40		45	mA
	G SYMMETRY/LOGIC				
Frequency Range ¹			50.001	67.000	MHz
Output Load ²				50	pF
Symmetry ³			40/60	60/40	%
Logic “0” Level				10% Vdd	V
Logic “1” Level			90% Vdd		V
Rise/Fall Time ⁴				10	ns
Supply Current				60	mA

¹ Because this product is based on AT-strip technology, not all frequencies in the range stated are available. Contact the factory for availability of specific frequencies.

² TTL load - See load circuit diagram #1. HCMOS load - See load circuit diagram #2.

³ Symmetry is measured at 1.4 V with TTL load, and at 50% Vdd with HCMOS load.

⁴ Rise/Fall times are measured between 0.5 V and 2.4 V with TTL load, and between 10% Vdd and 90% Vdd 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.

MtronPTI Lead Free Solder Profile

