

MM Series

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

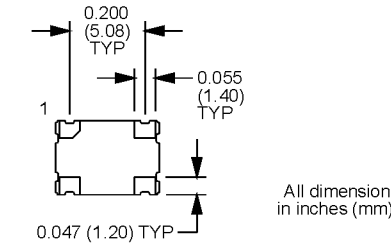
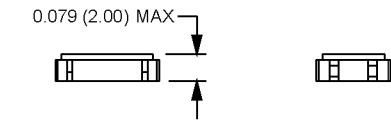
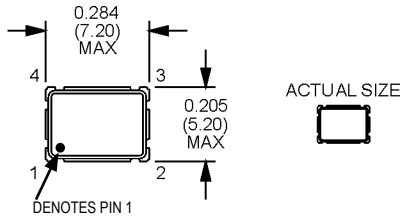
OBSOLETE



PLEASE REFER TO THE M1 PRODUCT SERIES.

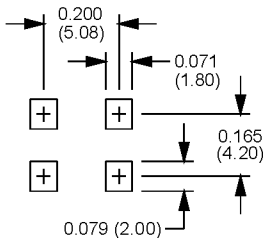


- AT-strip crystal in a miniature ceramic surface mount package.
- TTL and HCMOS compatible
- Tri-state output is optional



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	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

00.0000 MHz

Product Series MM 1 3 T A N

Temperature Range
 1: 0°C to +70°C 2: -40°C to +85°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 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					
PARAMETERS	A SYMMETRY/LOGIC				UNITS
	TTL Load		HCMOS Load		
	MIN.	MAX.	MIN.	MAX.	
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.

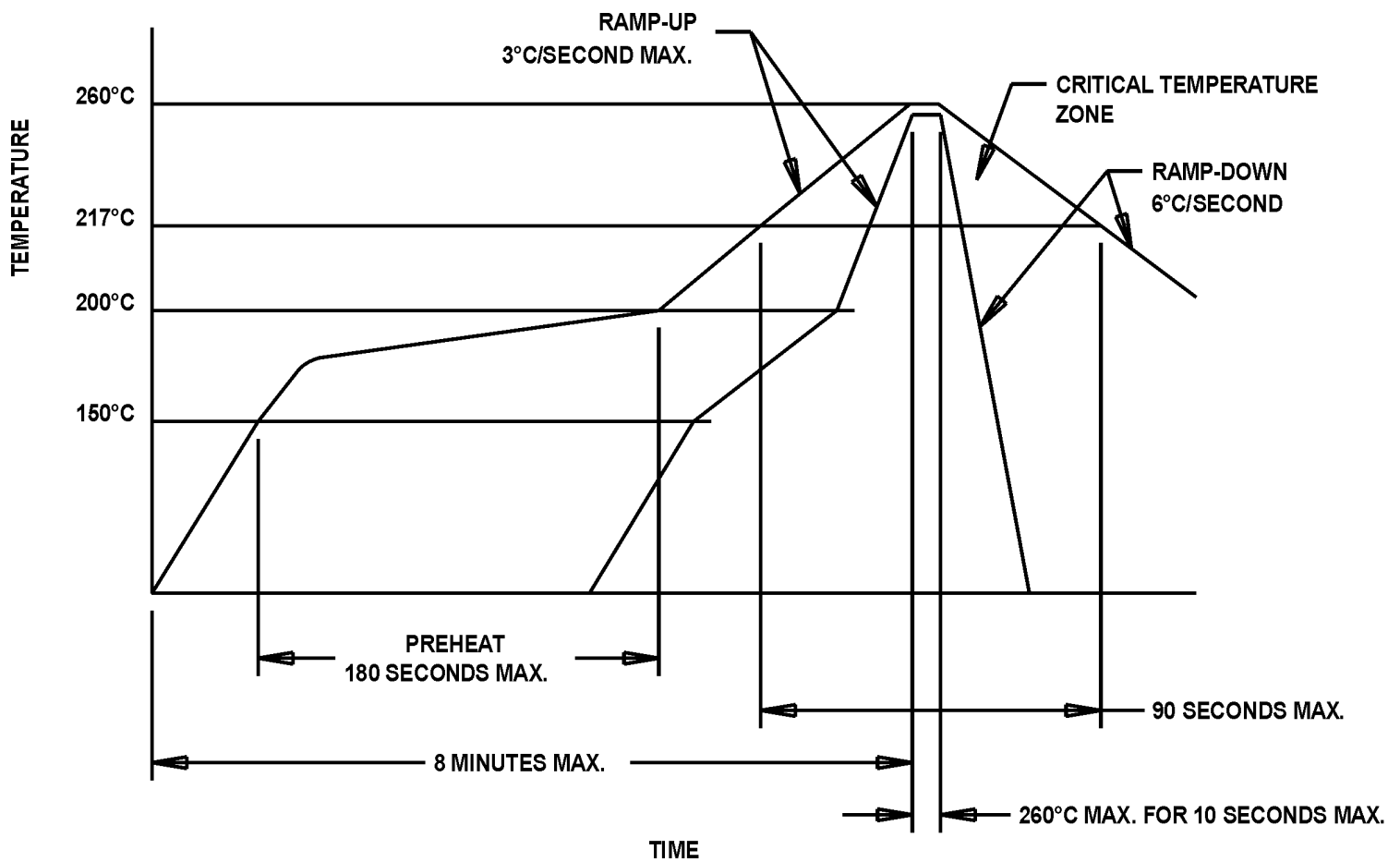
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MtronPTI Lead Free Solder Profile



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