

# M1S Series 5.0 Volt HCMOS/TTL Compatible Oscillators



## M1S Series 5.0 Volt HCMOS/TTL Compatible Ceramic Package Surface Mount Oscillators

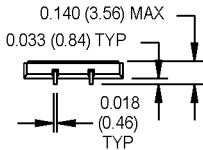
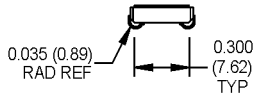
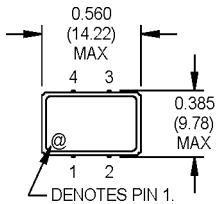
Features grounded lid for reduced EMI.

This product is available in both 5.0 V (M1S) and 3.3 V (M2S).

### RECOMMENDATION:

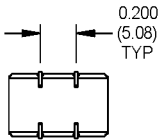
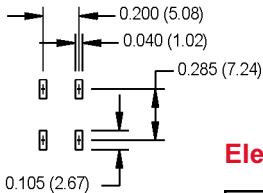
Unless board height (.185 vs. .140) is a concern, M-tron recommends the M7S series.

See page 79.



All dimensions in inches (mm)

### SUGGESTED SOLDER PAD LAYOUT



## Ordering Information

Product Series	M1S	1	3	F	A	J	00.0000	MHz
Temperature Range	1: 0°C to +70°C		2: -40°C to +85°C		3: -55°C to +105°C		4: -55°C to +125°C	
	5: -10°C to +85°C		6: -20°C to +70°C		7: 0°C to +85°C			
Stability	1: ±1000 ppm		2: ±500 ppm		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 CMOS/TTL		B: 45/55 TTL		C: 45/55 CMOS		D: 45/55 CMOS/TTL	
Package/Lead Configurations	J: J Lead							
Frequency (customer specified)								

## Available Stabilities vs. Temperature

T \ S	1	2	3	4	5	6	8
1	A	A	S	A	A	A	A
2	A	A	A	A	A	A	C
3	A	A	A	C	N	N	N
4	A	A	A	C	N	N	N
5	A	A	A	A	A	A	C
6	A	A	A	A	A	A	C
7	A	A	A	A	A	A	C

A = Available  
N = Not Available  
S = Standard  
C = Consult Factory

## Pin Connections

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.

## Electrical Specifications

Standard Operating Conditions • 0°C to +70°C; Vdd = 5.0 ±10% VDC					
PARAMETERS	TTL Load		HCMOS Load		UNITS
	MIN.	MAX.	MIN.	MAX.	
Frequency Range	1.000	80.000	1.000	80.000	MHz
Output Load <sup>1</sup>	10		50		TTL/pF
Symmetry <sup>2</sup>	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 <sup>3</sup>	1.000 to 40.000 MHz		4		nS
	40.001 to 80.000 MHz		3		nS
Supply Current	60		85		mA

<sup>1</sup> TTL load - See load circuit diagram #1 on page 137. HCMOS load - See load circuit diagram #2 on page 137.

<sup>2</sup> Symmetry is measured at 1.4 V with TTL load and at 50% Vdd with HCMOS load.

<sup>3</sup> 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.

See page 136, Figure \*2 for suggested solder profile.

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