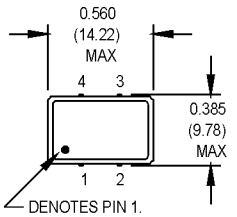
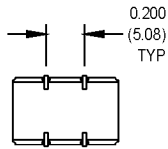
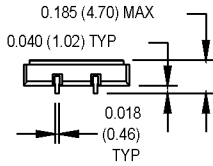


M7S & M8S Series

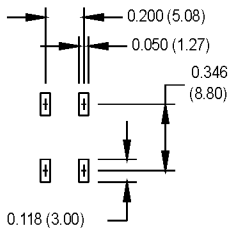
9x14 mm, 5.0 or 3.3 Volt, HCMOS/TTL, Clock Oscillators



All dimensions
in inches (mm).



SUGGESTED SOLDER PAD LAYOUT



Pin Connections

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

Ordering Information

	M7S/M8S	1	3	F	A	J	00.0000 MHz
Product Series							
M7S = 5.0 Volt							
M8S = 3.3 Volt							
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 (1.000 - 107.000 MHz)							
Package/Lead Configurations							
J: J Lead (Gold Flash Leads)							
Frequency (customer specified)							

* Contact factory for availability.

Electrical Specifications	PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition
	Frequency Range	F	1		125	MHz	
	Frequency Stability	ΔF/F	(See Ordering Information)				
	Operating Temperature	T _A	(See Ordering Information)				
	Storage Temperature	T _S	-55		+125	°C	
	Input Voltage	V _{dd}	4.5	5.0	5.5	V	M7S
			3.135	3.3	3.465	V	M8S
	Input Current	I _{dd}			85	mA	M7S
					35	mA	M8S
	Symmetry (Duty Cycle) ¹		(See Ordering Information)				
	Load ²						
	M7S				10/50	TTL/pF	1.000 to 80.000 MHz
					10/15	TTL/pF	80.001 to 125.000 MHz
	M8S				10/15	TTL/pF	1.000 to 125.000 MHz
	Rise/Fall Time ³	T _r /T _f					
1.000 to 40.000 MHz				7/6	ns	M7S/M8S	
40.001 to 125.000 MHz				5/4	ns	M7S/M8S	
Logic “1” Level	V _{oh}	90% V _{dd} -0.5			V _{dd} V	HCMOS load TTL load	
Logic “0” Level	V _{ol}			10% 0.5	V _{dd} V	HCMOS load TTL load	
Cycle to Cycle Jitter (1 Sigma)			5 40	20 100	ps RMS ps RMS	1.000 to 80.000 MHz 80.001 to 125.000 MHz	
Tri-state Function		Pin 1 logic “1” or floating; output active Pin 1 logic “0”; output disables to high-Z					
Environmental	Mechanical Shock	Per MIL-STD-202, Method 213, Condition C					
	Vibration	Per MIL-STD-202, Method 201 & 204					
	Reflow Solder Conditions	See “Figure 2” on page 147					
	Hermeticity	Per MIL-STD-202, Method 112 (1 x 10 ⁻⁵ atm.cc/s of helium)					
	Solderability	Per EIAJ-STD-002					

1. Symmetry is measured at 1.4 V with TTL load, and at 50% V_{dd} with HCMOS load.
2. TTL load - See load circuit diagram #1 on page 148. HCMOS load - See load circuit diagram #2 on page 148.
3. Rise/fall times are measured between 0.5 V and 2.4 V with TTL load, and between 10% and 90% V_{dd} for HCMOS load.
4. For applications requiring better jitter performance above 80 MHz, please refer to the M-tron M7R or M8R series.

M-tron 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. No rights under any patent accompany the sale of such product.

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