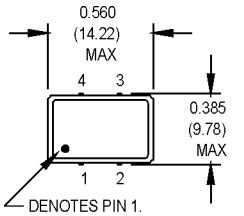
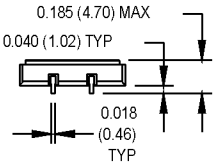
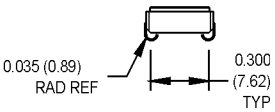
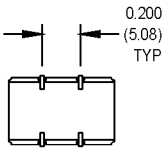
M7S & M8S Series
9x14 mm, 5.0 or 3.3 Volt, HCMOS/TTL, Clock Oscillators



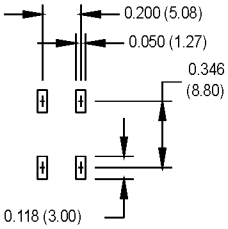
All dimensions in inches (mm).







SUGGESTED SOLDER PAD LAYOUT



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.

Pin Connections

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

	PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition
Electrical Specifications	Frequency Range	F	1		125	MHz	
	Frequency Stability	ΔF/F	(See Ordering Information)				
	Operating Temperature	TA	(See Ordering Information)				
	Storage Temperature	Ts	-55		+125	°C	
	Input Voltage	Vdd	4.5	5.0	5.5	V	M7S
			3.135	3.3	3.465	V	M8S
	Input Current	Idd			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]	Tr/Tf					
	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	Voh	90%			Vdd	HCMOS load
			Vdd -0.5			V	TTL load
	Logic "0" Level	Vol			10%	Vdd	HCMOS load
					0.5	V	TTL load
	Cycle to Cycle Jitter			5	20	ps RMS	1.000 to 80.000 MHz
	(1 Sigma)			40	100	ps RMS	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^{-8} atm.cc/s of helium)					
	Solderability	Per EIAJ-STD-002					

1. Symmetry is measured at 1.4 V with TTL load, and at 50% Vdd 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% Vdd for HCMOS load.
4. For applications requiring better jitter performance above 80 MHz, please refer to the M-tron M7R or M8R series.

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