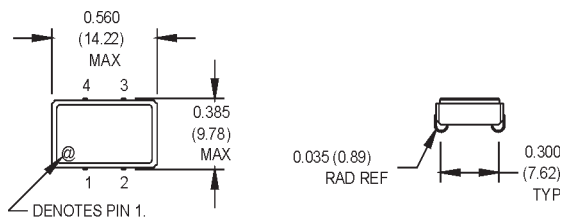


# M7S & M8S Series

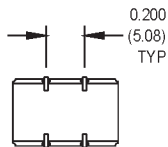
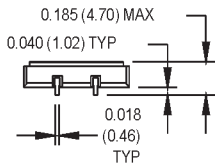
## 9x14 mm, 5.0 or 3.3 Volt, HCMOS/TTL, Clock Oscillator



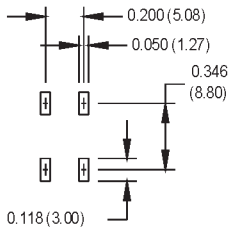
- J-lead ceramic package
- Wide operating temperature range
- RoHS version (-R) available



All dimensions in inches (mm).



SUGGESTED SOLDER PAD LAYOUT



### Pin Connections

PIN	FUNCTION
1	N/C or Tristate
2	Ground
3	Output
4	+Vdd

### Ordering Information

M7S/M8S	1	3	F	A	J	-R	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 HCMOS/TTL						B: 45/55 TTL	
C: 45/55 HCMOS							
D: 45/55 HCMOS/TTL (1.000 - 107.000 MHz)							
Package/Lead Configurations							
J: J Lead (Gold Flash Leads)							
RoHS Compliance							
Blank: non-RoHS compliant part							
-R: RoHS compliant part							
Frequency (customer specified)							

\* Contact factory for availability.  
M2005Sxxx & M2015Sxxx - Contact factory for datasheets.

PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition/Notes
Frequency Range	F	1		125	MHz	
Operating Temperature	T <sub>A</sub>	(See ordering information)				
Storage Temperature	T <sub>S</sub>	-55		+125	°C	
Frequency Stability	ΔF/F	(See ordering information)				
Aging						
1st Year			±3		ppm	
Thereafter (per year)			±2		ppm	
Input Voltage	V <sub>dd</sub>	4.5	5.0	5.5	V	M7S
		3.135	3.3	3.465	V	M8S
Input Current	I <sub>dd</sub>			85	mA	M7S
				35	mA	M8S
Output Type						HCMOS/TTL
Load						See Note 1
M7S			10 TTL or 50 pF			1.000 to 80.000 MHz
M8S			10 TTL or 15 pF			80.001 to 125.000 MHz
			10 TTL or 15 pF			1.000 to 125.000 MHz
Symmetry (Duty Cycle)		(See ordering information)				
Logic "1" Level	V <sub>oh</sub>	90% V <sub>dd</sub>			V	HCMOS Load
		V <sub>dd</sub> -0.5			V	TTL Load
Logic "0" Level	V <sub>ol</sub>			10% V <sub>dd</sub>	V	HCMOS Load
				0.5	V	TTL Load
Output Current				±16	mA	M7S
1 to 80 MHz				±16/-8	mA	M7S
80.001 to 125 MHz				±8	mA	M8S
1 to 80 MHz				±8	mA	M8S
80.001 to 125 MHz				+8/-4	mA	M8S
Rise/Fall Time	T <sub>r</sub> /T <sub>f</sub>			7/6	ns	M7S/M8S
1 to 40 MHz				5/4	ns	M7S/M8S
40.001 to 125 MHz						
Tristate Function		Input Logic "1" or floating: output active				
		Input Logic "0": output disables to high-Z				
Start up Time				10	ms	
Random Jitter	R <sub>j</sub>		5	12	ps RMS	1.000 to 80.000 MHz
1-Sigma			40	100	ps RMS	80.001 to 125.000 MHz
Mechanical Shock		MIL-STD-202, Method 213, C (100 g's)				
Vibration		MIL-STD-202, Method 201 & 204 (10 g's from 10-2000 Hz)				
Thermal Cycle		MIL-STD-883, Method 1010, B (-55°C to +125°C, 15 min dwell, 10 cycles)				
Hermeticity		MIL-STD-202, Method 112				
Solderability		Per EIAJ-STD-002				
Max Soldering Conditions		See solder profile, Figure 1				

1. TTL load - see Load Circuit Diagram #1. HCMOS load - see Load Circuit Diagram #2.

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# MtronPTI Lead Free Solder Profile

