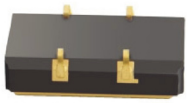
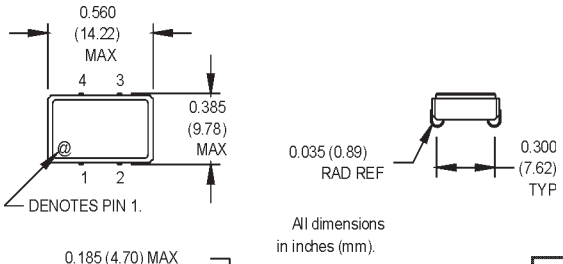
M7S & M8S Series

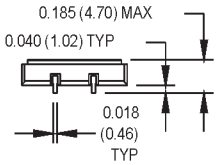
9x14 mm, 5.0 or 3.3 Volt, HCMOS/TTL, Clock Oscillator

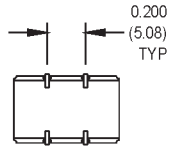


This product is not recommended for new designs

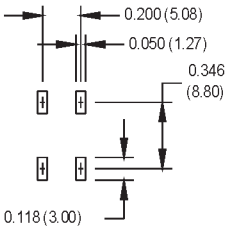
- J-lead ceramic package
- Wide operating temperature range
- RoHS version (-R) available







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
Electrical Specifications	Frequency Range	F	1		125	MHz	
	Operating Temperature	TA	(See ordering information)				
	Storage Temperature	TS	-55		+125	°C	
	Frequency Stability	ΔF/F	(See ordering information)				
	Aging 1st Year Thereafter (per year)			 ±3 ±2		 ppm ppm	
	Input Voltage	Vdd	4.5 3.135	5.0 3.3	5.5 3.465	V V	M7S M8S
	Input Current	Idd			85 35	mA mA	M7S M8S
	Output Type						HCMOS/TTL
	Load M7S M8S		10 TTL or 50 pF 10 TTL or 15 pF 10 TTL or 15 pF				See Note 1 1.000 to 80.000 MHz 80.001 to 125.000 MHz 1.000 to 125.000 MHz
	Symmetry (Duty Cycle)		(See ordering information)				
	Logic "1" Level	Voh	90% Vdd Vdd-0.5			V V	HCMOS Load TTL Load
	Logic "0" Level	Vol			10% Vdd 0.5	V V	HCMOS Load TTL Load
	Output Current 1 to 80 MHz 80.001 to 125 MHz 1 to 80 MHz 80.001 to 125 MHz				 ±16 +16/-8 ±8 +8/-4	 mA mA mA mA	 M7S M7S M8S M8S
	Rise/Fall Time 1 to 40 MHz 40.001 to 125 MHz	Tr/Tf			 7/6 5/4	 ns ns	 M7S/M8S M7S/M8S
	Tristate Function		Input Logic "1" or floating: output active Input Logic "0": output disables to high-Z				
	Start up Time				10	ms	
	Random Jitter 1-Sigma	Rj		5 40	12 100	ps RMS ps RMS	1.000 to 80.000 MHz 80.001 to 125.000 MHz
Environmental							
	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.

MtronPTI Lead Free Solder Profile