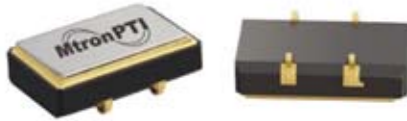
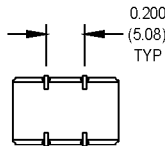
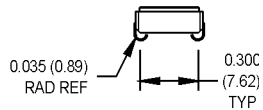
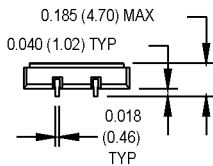
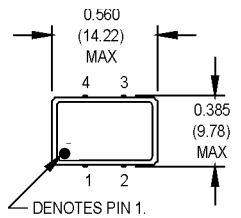


M4S Series

9x14 mm, 5.0 Volt, PECL, Clock Oscillator

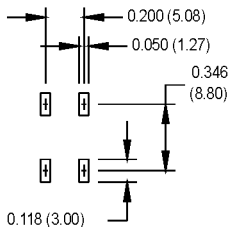


- **M4S Series Ceramic J-Lead PECL Clock Oscillators with Optional Complementary Outputs, PLL Version**



All dimensions
in inches (mm).

SUGGESTED SOLDER PAD LAYOUT



Ordering Information

	M4S	1	3	X	A	J	00.0000	MHz
Product Series								
Temperature Range								
1: 0°C to +70°C								
2: -40°C to +85°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								
X: Single Output								
Z: Dual Output								
Symmetry/Logic Compatibility								
A: 40/60								
B: 45/55 (Up to 80.000 MHz)								
Package/Lead Configurations								
J: J Lead (Gold Flash Leads)								
Frequency (customer specified)								

Pin Connections

PIN	FUNCTION(S) (Model Dependent)
1	N/C or Output #2, $\bar{Q}$
2	Case Ground
3	Output #1, Q
4	+Vcc

Electrical Specifications	PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition
	Frequency Range	F	19.44		160	MHz	
	Frequency Stability	$\Delta F/F$	(See Ordering Information)				
	Operating Temperature	Ta	(See Ordering Information)				
	Storage Temperature	Ts	-55		+125	°C	
	Input Voltage	Vcc	4.75	5.0	5.25	V	
	Input Current	I _{ee} /I _{cc}		70	100	mA	
	Symmetry (Duty Cycle)		(See Ordering Information)				
	Load		130 Ω to Vcc -2 V or Thevenin Equivalent				
	Rise/Fall Time	Tr/Tf			2.5	ns	See Note 2
	Logic "1" Level	Voh	Vcc -0.98			V	
	Logic "0" Level	Vol			Vcc -1.63	V	
Environmental	Cycle to Cycle Jitter			70	120	ps RMS	1 Sigma
	Mechanical Shock	Per MIL-STD-202, Method 213, Condition C					
	Vibration	Per MIL-STD-202, Method 201 & 204					
	Reflow Solder Conditions	240°C for 10 s max.					
	Hermeticity	Per MIL-STD-202, Method 112 (1 x 10 ⁻⁸ atm.cc/s of helium)					
Environmental	Solderability	Per EIAJ-STD-002					

1. Internally terminated outputs. See load circuit diagram #4.
2. Rise/Fall times are measured between Vcc-0.98 V and Vcc-1.63 V.
3. For applications requiring better jitter performance, please refer to the M-tron M4R series.

MtronPTI 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.

Please see www.mtronpti.com for our complete offering and detailed datasheets. Contact us for your application specific requirements: MtronPTI 1-800-762-8800.