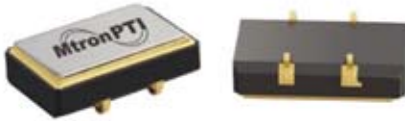
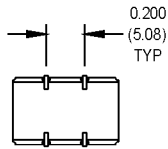
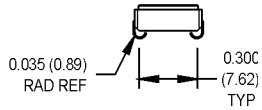
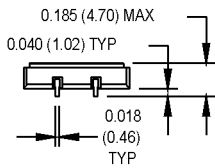
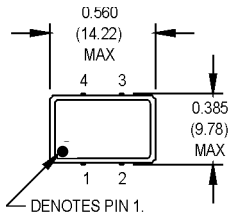


M4S Series

9x14 mm, 5.0 Volt, PECL, Clock Oscillator

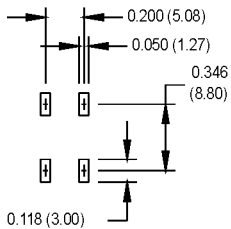


- **M4S Series Ceramic J-Lead PECL Clock Oscillators with Optional Complementary Outputs, PLL Version**



All dimensions in inches (mm).

SUGGESTED SOLDER PAD LAYOUT



Ordering Information

Product Series	M4S	1	3	X	A	J	00.0000	MHz
Temperature Range	1: 0°C to +70°C		2: -40°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)								

*Contact the factory for availability

Pin Connections

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

	PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition	
	Electrical Specifications	Frequency Range	F	19.44		160	MHz	
Frequency Stability		$\Delta F/F$	(See Ordering Information)					
Operating Temperature		T _A	(See Ordering Information)					
Storage Temperature		T _s	-55		+125	°C		
Input Voltage		V _{cc}	4.75	5.0	5.25	V		
Input Current		I _{ee/lcc}		70	100	mA		
Symmetry (Duty Cycle)			(See Ordering Information)					V _{cc} -1.3 V Level
Load			130 Ω to V _{cc} -2 V or Thevenin Equivalent					See Note 1
Rise/Fall Time		T _r /T _f			2.5	ns	See Note 2	
Logic "1" Level		V _{oh}	V _{cc} -0.98			V		
Logic "0" Level	V _{ol}			V _{cc} -1.63	V			
Cycle to Cycle Jitter			70	120	ps RMS	1 Sigma		
Environmental	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)						
	Solderability	Per EIAJ-STD-002						

1. Internally terminated outputs. See load circuit diagram #4.
2. Rise/Fall times are measured between V_{cc}-0.98 V and V_{cc}-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.