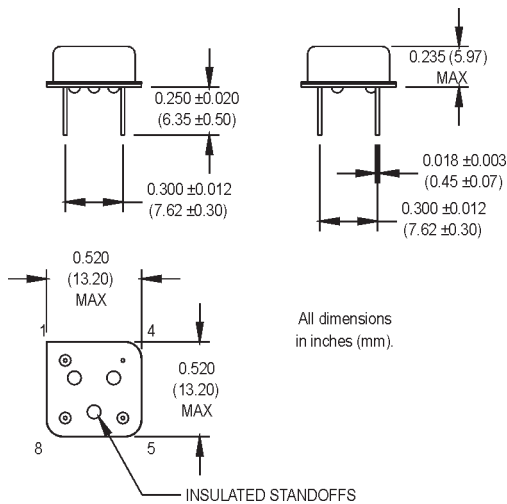


M3H & MH Series

8 pin DIP, 3.3 or 5.0 Volt, HCMOS/TTL Clock Oscillator



- Standard 8 DIP Package
- 3.3 or 5.0 Volt Versions
- RoHS Compliant Version available (-R)
- Low Jitter
- Tristate Option
- Wide Operating Temperature Range



Pin Connections

PIN	FUNCTION
1	N/C or Tristate
4	Circuit/Case Ground
5	Output
8	+Vdd

Ordering Information

M3H / MH	1	3	F	A	D	-R	00.0000 MHz
Product Series							
M3H = 3.3 Volt							
MH = 5.0 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 (MH series only)							
C: 45/55 HCMOS D: 45/55 HCMOS/TTL (MH to 50 MHz only)							
Package/Lead Configurations							
D: DIP; Nickel Header G: Gull Wing; Nickel Header							
RoHS Compliance							
Blank: non-RoHS compliant part							
-R: RoHS compliant part							
Frequency (customer specified)							

*Contact factory for availability
M2004Sxxx & M2006Sxxx - Contact factory for datasheet.

	PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition/Notes
Electrical Specifications	Frequency Range	F	1.5		100	MHz	M3H See Note 1
			1.0		80	MHz	MH
	Operating Temperature	T _A	(See ordering information)				
	Storage Temperature	T _S	-55		+125	°C	
	Frequency Stability	ΔF/F	(See ordering information)				
	Aging 1st Year Thereafter (per year)			±3 ±2		ppm ppm	
	Input Voltage	V _{dd}	3.135 4.5	3.3 5.0	3.465 5.5	V V	M3H MH
	Input Current (M3H)	I _{dd}			25 35 55	mA mA mA	1.5000 to 50.000 MHz 50.001 to 67.000 MHz 67.001 to 100.000 MHz
	Input Current (MH)	I _{dd}			40 60	mA mA	1.000 to 40.000 MHz 40.001 to 80.000 MHz
	Output Type						HCMOS/TTL
	Load			2 TTL or 15 pF 10 TTL or 50 pF			M3H MH See Note 2
	Symmetry (Duty Cycle)		(See ordering information)				
	Logic "1" Level	V _{oh}	90% V _{dd} V _{dd} -0.5			V V	HCMOS Load TTL Load
	Logic "0" Level	V _{ol}			10% V _{dd} 0.5	V V	HCMOS Load TTL Load
	Output Current				±4 ±16	mA mA	M3H MH
Environmental	Rise/Fall Time	T _r /T _f			10	ns	See Note 4
	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 _j		5	12	ps RMS	1-Sigma
	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 Wave Soldering Conditions	+260°C for 10 seconds					

1. Contact the factory for availability of higher frequencies.
2. TTL load - see Load Circuit Diagram #1. HCMOS load - see Load Circuit Diagram #2.
3. Symmetry is measured at 1.4 V with TTL load and at 50% V_{dd} with HCMOS load.
4. Rise/fall times are measured between 0.4 V and 2.4 V with TTL load, and between 10% V_{dd} and 90% V_{dd} with HCMOS Load.

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.

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