

# M3H & MH Series

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

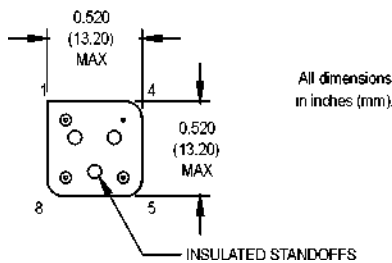
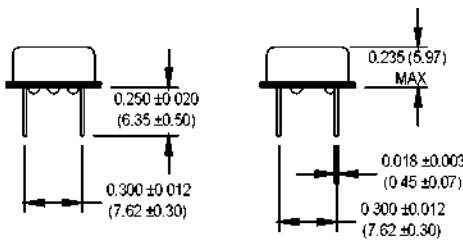


- 3.3 or 5.0 Volt Versions
- RoHs Compliant Version available
- Low Jitter

### Ordering Information

Product Series	Temperature Range	Stability	Output Type	Symmetry/Logic Compatibility	Package/Lead Configurations	RoHS Compliance	Frequency (customer specified)
M3H / MH	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	1: ±1000 ppm 2: ±500 ppm 3: ±100 ppm 4: ±50 ppm 5: +35 ppm 6: +25 ppm 7: +0/-200 ppm *8: ±20 ppm	F: Fixed T: Tristate	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)	D: DIP; Nickel Header G: Gull Wing; Nickel Header	Blank: non-RoHS compliant part -R: RoHS compliant part	00.0000 MHz

\*Contact factory for availability



All dimensions in inches (mm).

### Pin Connections

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

### Electrical Specifications

PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition/Notes
Frequency Range	F	1.5		100	MHz	M3H MH See Note 1
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>	3.135	3.3	3.465	V	M3H
		4.5	5.0	5.5	V	MH
Input Current (M3H)	I <sub>dd</sub>			25	mA	1.500 to 50.000 MHz
				35	mA	50.001 to 67.000 MHz
				55	mA	67.001 to 100.000 MHz
Input Current (MH)	I <sub>dd</sub>			40	mA	1.000 to 40.000 MHz
				60	mA	40.001 to 80.000 MHz
Output Type						HCMOS/TTL
Load		2 TTL or 15 pF				M3H
		10 TTL or 50 pF				MH See Note 2
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				±4	mA	M3H
				±16	mA	MH
Rise/Fall Time	T <sub>r</sub> /T <sub>f</sub>			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			5		ms	
Random Jitter	RJ		5	12	ps RMS	1-Sigma

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<sub>dd</sub> with HCMOS load.
4. Rise/Fall times are measured between 0.4 V and 2.4 V with TTL load, and between 10% V<sub>dd</sub> and 90% V<sub>dd</sub> with HCMOS load.

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