

# 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**

**00.0000 MHz**

**M3H / MH 1 3 F A D -R**

**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  
7: +0/-200 ppm    \*8: ±20 ppm

**Output Type**  
F: Fixed    T: Tristate

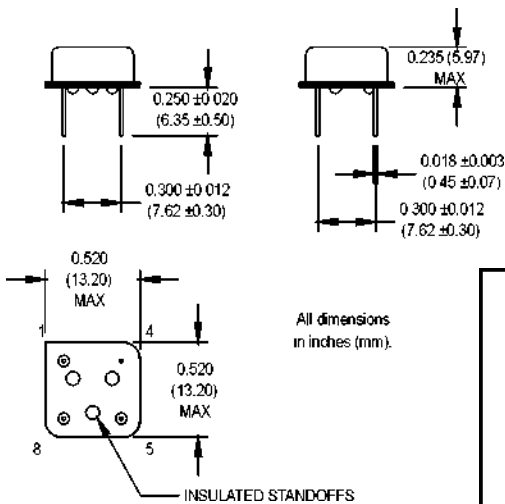
**Symmetry/Logic Compatibility**  
A: 40/60 HCMOS/TTL    B: 45/55 TTL (MH series only)  
C: 45/55 HCMOS    D: 45/55 HCMOS/TTL (MH to 50 MHz only)

**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



### Pin Connections

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

PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition/Notes
Frequency Range	F	1.5 1.0		100 80	MHz 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 4.5	3.3 5.0	3.465 5.5	V V	M3H MH
Input Current (M3H)	I <sub>dd</sub>			25 35 55	mA mA mA	1.500 to 50.000 MHz 50.001 to 67.000 MHz 67.001 to 100.000 MHz
Input Current (MH)	I <sub>dd</sub>			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)				See Note 3
Logic "1" Level	V <sub>oh</sub>	90% V <sub>dd</sub> V <sub>dd</sub> - 0.5			V V	HCMOS Load TTL Load
Logic "0" Level	V <sub>ol</sub>			10% V <sub>dd</sub> 0.5	V V	HCMOS Load TTL Load
Output Current				±4 ±16	mA mA	M3H 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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