

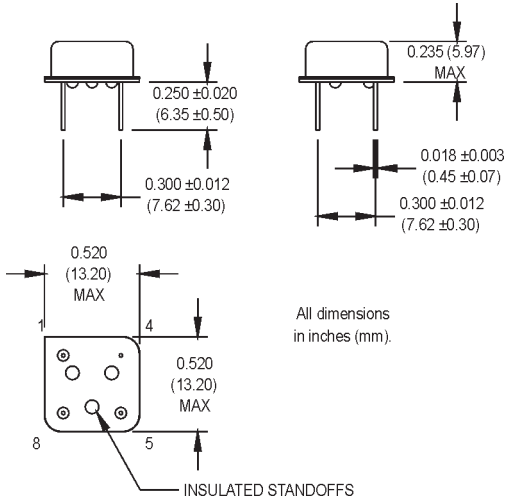
M3H & MH Series

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



This product is not recommended for new designs

- 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

Product Series	M3H / MH	1	3	F	A	D	-R	00.0000	MHz
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
Frequency Range	F	1.5		100	MHz	M3H MH See Note 1
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				
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
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.