

M3H & MH Series

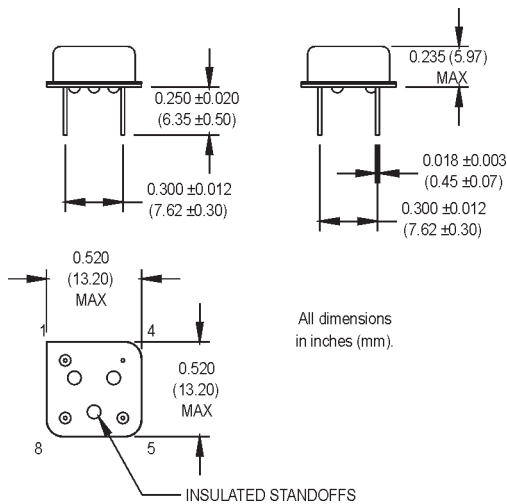
8 pin DIP, 3.3 or 5.0 Volt, HCMOS/TTL Clock Oscillator



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

Ordering Information		M3H / MH	1	3	F	A	D	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						
Frequency (customer specified)									

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



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		100	MHz	M3H
		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			±3		ppm	
1st Year			±2		ppm	
Thereafter (per year)						
Input Voltage	V _{dd}	3.135	3.3	3.465	V	M3H
		4.5	5.0	5.5	V	MH
Input Current (M3H)	I _{dd}			25	mA	1.5000 to 50.000 MHz
				35	mA	50.001 to 67.000 MHz
				55	mA	67.001 to 100.000 MHz
Input Current (MH)	I _{dd}			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 _{oh}	90% V _{dd}			V	HCMOS Load
		V _{dd} -0.5			V	TTL Load
Logic "0" Level	V _{ol}			10% V _{dd}	V	HCMOS Load
				0.5	V	TTL Load
Output Current				±4	mA	M3H
				±16	mA	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
Environmental	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.

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