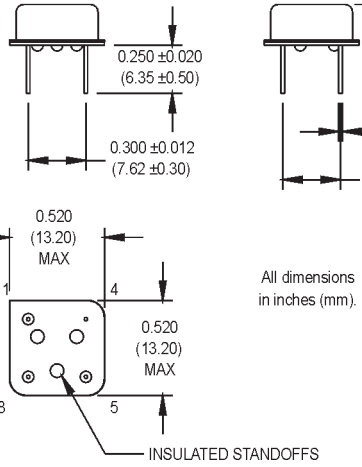
OBSOLETE

MtronPTI®

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 1.0		100 80	MHz MHz	M3H MH — See Note 1
	Operating Temperature	TA	(See ordering information)				
	Storage Temperature	TS	-55		+125	°C	
	Frequency Stability	ΔF/F	(See ordering information)				
	Aging 1st Year Thereafter (per year)			 ±3 ±2		 ppm ppm	
	Input Voltage	Vdd	3.135 4.5	3.3 5.0	3.465 5.5	V V	M3H MH
	Input Current (M3H)	Idd			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)	Idd			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	Voh	90% Vdd Vdd-0.5			V V	HCMOS Load TTL Load
	Logic "0" Level	Vol			10% Vdd 0.5	V V	HCMOS Load TTL Load
	Output Current				±4 ±16	mA mA	M3H MH
	Rise/Fall Time	Tr/Tf			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	Rj		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% Vdd with HCMOS load.
4. Rise/fall times are measured between 0.4 V and 2.4 V with TTL load, and between 10% Vdd and 90% Vdd 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.