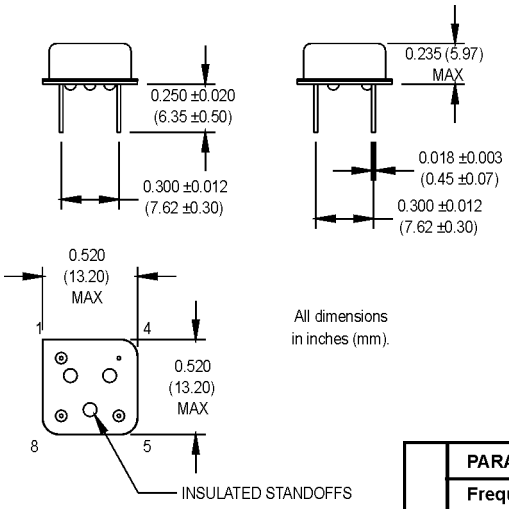
M3H & MH Series
8 DIP, 5.0 or 3.3 Volt, HCMOS/TTL, Clock Oscillators



All dimensions in inches (mm).

See page 146 for gull wing configuration.

Pin Connections

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

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
7: +0/-200 ppm
* 8: ±20 ppm

Output Type
F: Fixed
T: Tristate (1.000 MHz and up)

Symmetry/Logic Compatibility
A: 40/60 CMOS/TTL
B: 45/55 TTL (MH series only)
C: 45/55 CMOS
D: 45/55 CMOS/TTL

Package/Lead Configurations
D: DIP; Nickel Header
G: Gull Wing; Nickel Header

Frequency (customer specified)

*Contact factory for availability.

	PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition
Electrical Specifications	Frequency Range[1]	F	1.5		67	Mhz	M3H
			.625		67	MHz	MH
	Frequency Stability	ΔF/F	(See Ordering Information)				
	Operating Temperature	TA	(See Ordering Information)				
	Storage Temperature	Ts	-55		+125	°C	
	Input Voltage	Vdd	3.135	3.3	3.465	V	M3H
			4.5	5.0	5.5	V	MH
	Input Current	Idd					
	M3H				25	mA	1.500 to 50.000 MHz
					35	mA	50.001 to 67.000 MHz
	MH	Idd			40	mA	0.625 to 40.000 MHz
					60	mA	40.001 to 67.000 MHz
	Symmetry (Duty Cycle)[2]		(See Ordering Information)				
	Load[3]		2 TTL or 15 pF				M3H
			10 TTL or 50 pF				MH
	Rise/Fall Time[4]	Tr/Tf			10	ns	
	Logic "1" Level	Voh	90% Vdd			V	HCMOS Load
			Vdd -0.5			V	TTL Load
	Logic "0" Level	Vol			10% Vdd	V	HCMOS Load
					0.5	V	TTL Load
	Cycle to Cycle Jitter			7	18	ps RMS	1 Sigma
	Tri-State Function		Input Logic "1" or floating; output active				
			Input Logic "0"; output to high-Z				
Environmental	Mechanical Shock	Per MIL-STD-202, Method 213, Condition C					
	Vibration	Per MIL-STD-202, Method 201 & 204					
	Wave Solder Conditions	See page 147					
	Hermeticity	Per MIL-STD-202, Method 112 (1 x 10^{-8} atm.cc/s of helium)					
	Solderability	Per EIAJ-STD-002					

1. Contact the factory for availability of higher frequencies.
2. Symmetry is measured at 1.4 V with TTL load, and at 50% Vdd with HCMOS load.
3. TTL load - See load circuit diagram #1 on page 148. HCMOS load - See load circuit diagram #2 on page 148.
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.

M-tron Industries, Inc., PO Box 630, Yankton, SD 57078-0630, USA Phone: 605-665-9321 or 1-800-762-8800 Fax: 605-665-1709 Website: www.mtron.com
M-tron Industries Limited, 1104 Shanghai Industrial Investment Building, 48-62 Hennessy Road, Wanchai, Hong Kong, China Phone: 852-2866-8023 Fax: 852-2529-1822