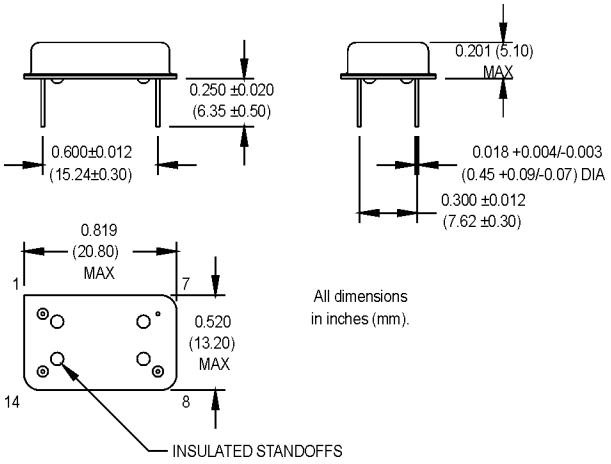
MHO+ Series
14 DIP, 5.0 Volt, HCMOS/TTL, Clock Oscillators



All dimensions in inches (mm).

See page 146 for gull wing configuration.

Ordering Information

MHO+ 1 3 F A D 00.0000 MHz

Product Series

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 to 67.000 MHz)

Symmetry/Logic Compatibility (See Table Below)
- A: 40/60 CMOS/TTL
- B: 45/55 TTL
- C: 45/55 CMOS
- D: 45/55 CMOS/TTL
- F: 40/60 TTL
- G: 40/60 CMOS

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

Frequency (customer specified)

* Contact factory for availability.

Available Symmetry

FREQUENCY RANGE	STD.	OPTIONS
0.732 kHz to 50.000 MHz	A	B, C, D
50.001 to 60.000 MHz	A	B, C
60.001 to 67.000 MHz	A	C
67.001 to 80.000 MHz	F,G	

Pin Connections

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

	PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition
Electrical Specifications	Frequency Range	F	.732 kHz		80	MHz	
	Frequency Stability	ΔF/F	(See Ordering Information)				
	Operating Temperature	TA	(See Ordering Information)				
	Storage Temperature	Ts	-55		+125	°C	
	Input Voltage	Vdd	4.5	5.0	5.5	V	
	Input Current	Idd			15 25 60	mA mA mA	0.732 kHz to 2.999 MHz 3.000 to 25.999 MHz 26.000 to 80.000 MHz
	Symmetry (Duty Cycle) [1]		(See Ordering Information)				
	Load [2]		5 TTL or 50 pF 10 TTL or 50 pF 10 TTL or 15 pF				0.732 kHz to 2.999 MHz 3.000 to 67.000 MHz 67.001 to 80.000 MHz
	Rise/Fall Time [3] 0.732 kHz to 2.999 MHz 3.000 to 80.000 MHz	Tr/Tf			 20 10	 ns ns	
	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
	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. Symmetry is measured at 1.4 V with TTL load, and at 50% Vdd with HCMOS load.
2. TTL load - See load circuit diagram #1 on page 148. HCMOS load - See load circuit diagram #2 on page 148.
3. Rise/Fall times are measured between 0.5 V and 2.4 V with TTL load, and between 10% Vdd and 90% Vdd with HCMOS load.

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