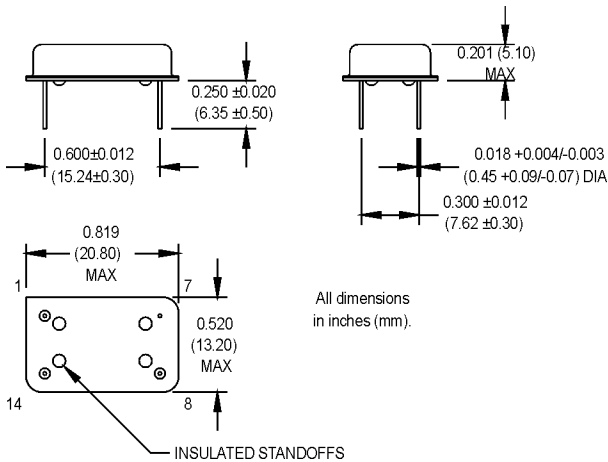
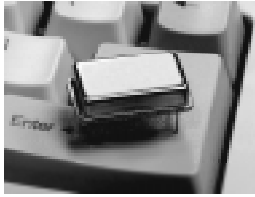


MHO+ Series 5.0 Volt HCMOS/TTL Compatible Oscillators



See page 90 for gull wing configuration.

Pin Connections

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

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	

	PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition
Electrical Specifications	Frequency Range	F	.732 kHz		80	MHz	
	Frequency Stability	$\Delta F/F$	(See Ordering Information)				
	Operating Temperature	T _A	(See Ordering Information)				
	Storage Temperature	T _s	-55		+125	°C	
	Input Voltage	V _{dd}	4.5	5.0	5.5	V	
	Input Current	I _{dd}			15	mA	0.732 kHz to 2.999 MHz
					25	mA	3.000 to 25.999 MHz
					60	mA	26.000 to 80.000 MHz
	Symmetry (Duty Cycle) ¹		(See Ordering Information)				
	Load ²		5 TTL or 50 pF				0.732 kHz to 2.999 MHz
			10 TTL or 50 pF				3.000 to 67.000 MHz
			10 TTL or 15 pF				67.001 to 80.000 MHz
	Rise/Fall Time ³	Tr/Tf			20	ns	
					10	ns	
	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	
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	260°C for 10 s max.					
	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% V_{dd} with HCMOS load.

2. TTL load - See load circuit diagram #1 on page 92. HCMOS load - See load circuit diagram #2 on page 92.

3. Rise/Fall times are measured between 0.5 V and 2.4 V with TTL load, and between 10% V_{dd} and 90% V_{dd} with HCMOS load.

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