

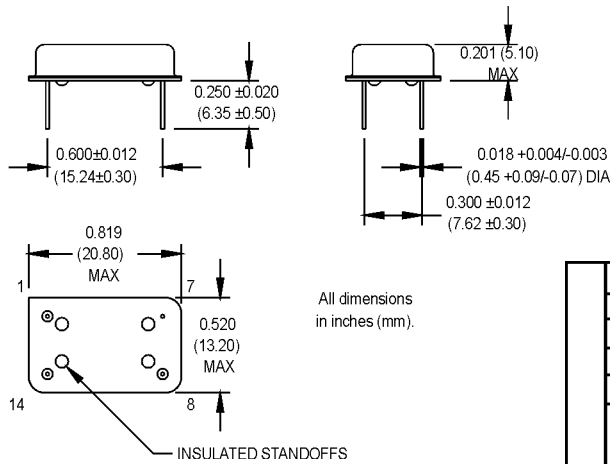
MHO+ Series

14 pin DIP, 5.0 Volt, HCMOS/TTL, Clock Oscillator



Features:

- Standard 14 DIP Package
- RoHS Compliant Version Available (-R)
- Tristate Option
- Wide Operating Temperature Range



Pin Connections

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

Available Symmetry

FREQUENCY RANGE	STD.	OPTIONS
0.732 kHz to 50 MHz	A	B, C, D
50.001 to 60 MHz	A	B, C
60.001 to 67 MHz	A	C
67.001 to 80 MHz	F,G	C

Ordering Information

Product Series	MHO+	1	3	F	A	D	-R	00.0000 MHz
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
Output Type		F: Fixed	T: Tristate (1.000 to 80.000 MHz)					
Symmetry/Logic Compatibility (See Table Below)		A: 40/60 HCMOS/TTL	B: 45/55 TTL	C: 45/55 HCMOS	D: 45/55 HCMOS/TTL	F: 40/60 TTL	G: 40/60 HCMOS	
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

PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition/Notes
Frequency Range	F	.732 kHz		80	Mhz	See Note 1
Operating Temperature	T _A	(See Ordering Information)				
Storage Temperature	T _S	-55		+125	°C	
Frequency Stability	ΔF/F	(See Ordering Information)				
Aging						
1st Year			±3		ppm	
Thereafter (per year)			±2		ppm	
Input Voltage	V _{dd}	4.5	5.0	5.5	V	
Input Current	I _{dd}			15	mA	.732 kHz to 2.999 MHz
				25	mA	3.000 to 25.999 MHz
				60	mA	26.000 to 80.000 MHz
Output Type						HCMOS/TTL
Load						See Note 2
						.732 kHz to 2.999 MHz
						3.000 to 67.000 MHz
						67.001 to 80.000 MHz
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				±8	mA	0.732 kHz to 2.999 MHz
				±16	mA	3.000 to 80.000 MHz
Rise/Fall Time	T _r /T _f			20	ns	See Note 4
				10	ns	.732 kHz to 2.999 MHz
						3.000 to 80.000 MHz
Tristate Function		Input Logic "1" or floating; output active				
		Input Logic "0"; output to high-Z				
Start up Time			5		ms	
Random Jitter	R _j		5	12	ps RMS	1-Sigma

- Consult factory for availability of higher frequencies.
- TTL load - See load circuit diagram #1. HCMOS load - See load circuit diagram #2.
- Symmetry is measured at 1.4 V with TTL load, and at 50% V_{dd} with HCMOS load.
- 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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