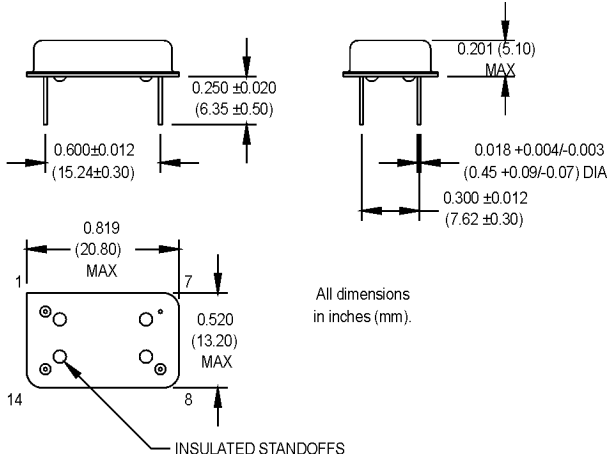


# MA Series

## 14 pin DIP, 5.0 Volt, AC MOS/TTL, Clock Oscillator



### Ordering Information

	MA	1	3	F	A	D	-R	00.0000	MHz
<b>Product Series</b>									
<b>Temperature Range</b>									
1: 0°C to +70°C	2: -40°C to +85°C								
6: -20°C to +70°C	7: 0°C to +85°C								
<b>Stability</b>									
1: ±1000 ppm	2: ±500 ppm								
3: ±100 ppm	4: ±50 ppm								
5: ±35 ppm	6: ±25 ppm								
*8: ±20 ppm									
<b>Output Type</b>									
F: Fixed	T: Tristate								
<b>Symmetry/Logic Compatibility</b>									
A: 40/60 AC MOS/TTL	B: 45/55 TTL								
C: 45/55 AC MOS									
<b>Package/Lead Configurations</b>									
A: DIP; Gold Flash Header	D: DIP; Nickel Header								
G: Gull Wing; Nickel Header	X: Gull Wing; Gold Header								
<b>RoHS Compliance</b>									
Blank: non-RoHS compliant part									
-R: RoHS compliant part									
<b>Frequency (customer specified)</b>									

\* Contact factory for availability.

### Pin Connections

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

	PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition
Electrical Specifications	Frequency Range	F	30		133	MHz	
	Frequency Stability	$\Delta F/F$	(See Ordering Information)				
	Operating Temperature	T <sub>A</sub>	(See Ordering Information)				
	Storage Temperature	T <sub>S</sub>	-55		+125	°C	
	Input Voltage	V <sub>dd</sub>	4.75	5.0	5.25	V	
	Input Current	I <sub>dd</sub>		70	90	mA	@ 50 Ω Load
	Symmetry (Duty Cycle)		(See Ordering Information)				
	Load				50	Ω	See Note 2
	Rise/Fall Time	T <sub>r</sub> /T <sub>f</sub>			2	ns	See Note 3
	Logic "1" Level	V <sub>oh</sub>	90% V <sub>dd</sub>			V	AC MOS Load
			V <sub>dd</sub> - 0.5			V	TTL Load
	Logic "0" Level	V <sub>ol</sub>			10% V <sub>dd</sub>	V	AC MOS Load
					2.4	V	TTL Load
Cycle to Cycle Jitter			5	15	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 <sup>3</sup> 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<sub>dd</sub> with AC MOS load.
2. See load circuit diagram #6.
3. Rise/Fall times are measured between 0.5 V and 2.4 V with TTL load, and between 10% V<sub>dd</sub> and 90% V<sub>dd</sub> with AC MOS load.

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