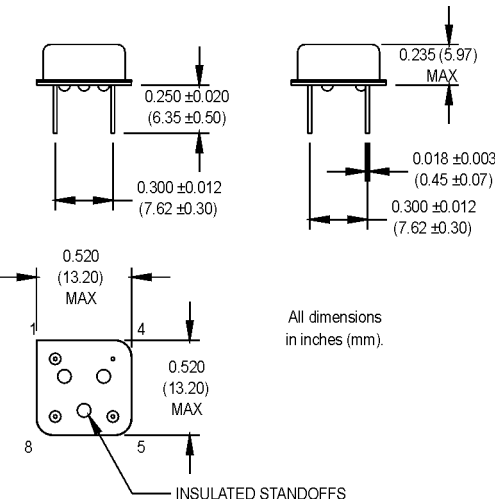


# M3A & MAH Series

8 pin DIP, 5.0 or 3.3 Volt, AC MOS/TTL, Clock Oscillators



All dimensions in inches (mm).

### Pin Connections

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

### Ordering Information

	M3A/MAH	1	3	F	A	D	-R	00.0000	MHz
<b>Product Series</b>	M3A = 3.3 Volt MAH = 5.0 Volt								
<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 Flash Header								
<b>RoHS Compliance</b>	Blank: non-RoHS compliant part -R: RoHS compliant part								
<b>Frequency (customer specified)</b>									

\*Contact factory for availability.

	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>	3.135	3.3	3.465	V	M3A	
			4.75	5.0	5.25	V	MAH	
	Input Current	I <sub>dd</sub>		30	50	mA	M3A	
				70	90	mA	MAH	
	Symmetry (Duty Cycle)		(See Ordering Information)					See Note 1
	Load				50	Ω	See Note 2	
	Rise/Fall Time	Tr/Tf		1	2.5	ns	See Note 3	
					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		
				0.5	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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