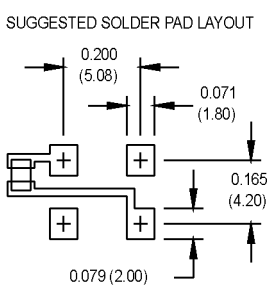
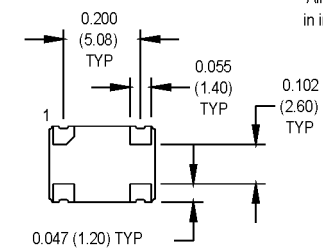
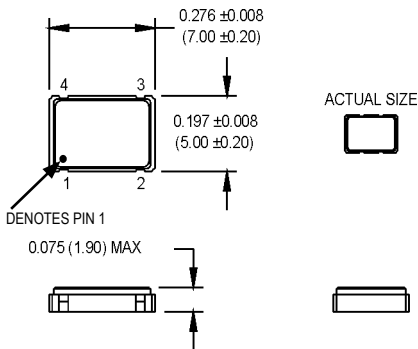


# M2 Series

5x7 mm, 3.3 Volt, HCMOS/TTL Compatible Output, Clock Oscillator



**NOTE:** A capacitor of value 0.01 μF or greater between Vdd and Ground is recommended.

### Pin Connections

PIN	FUNCTION
1	N/C or Tristate
2	Ground
3	Output
4	+Vdd

### Ordering Information

**Product Series** M2 1 3 T C N 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 125°C    6: -20°C to +70°C  
 7: 0°C to 85°C

**Stability**  
 3: ±100 ppm    4: ±50 ppm  
 5: ±35 ppm    6: ±25 ppm  
 \*8: ±20 ppm

**Output Type**  
 F: Fixed    Q: Standby Function    T: Tristate

**Symmetry/Logic Compatibility**  
 A or G: 40/60 @ 50% Vdd\*\*  
 C: 45/55 HCMOS

**Package/Lead Configurations**  
 N: Leadless

**Frequency (customer specified)**

\*Contact Factory for Availability  
 \*\* A and G codes are used interchangeably on the M2 Series

PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition/Notes
Frequency Range	F	1.5		135	MHz	See Note 1
Operating Temperature	Ta	(See ordering information)				
Storage Temperature	Ts	-55		+125	°C	
Frequency Stability	ΔF/F	(See ordering information)				
Aging 1 <sup>st</sup> Year			±3		ppm	
Thereafter (per year)			±2		ppm	
Input Voltage	Vdd	3.0	3.3	3.6	V	
Input Current	Idd			10	mA	1.500 to 20.000 MHz
				20	mA	20.001 to 50.000 MHz
				30	mA	50.001 to 67.000 MHz
				55	mA	67.001 to 135.000 MHz
Standby Current				10	μA	"Q" Output Type
Output Type						HCMOS/TTL Compatible
Load		2 TTL or 15 pF				See Note 2
Symmetry (Duty Cycle)		(See ordering information)				½ Vdd
Logic "1" Level	Voh	90% Vdd			V	HCMOS Load
		Vdd -0.5			V	TTL Load
Logic "0" Level	Vol			10% Vdd	V	HCMOS Load
				0.5	V	TTL Load
Output Current				±4	mA	
Rise/Fall Time	Tr/Tf			6	ns	See Note 3
				4	ns	1.500 to 50.000 MHz
				2	ns	50.001 to 80.000 MHz
Standby/Tristate Function		Input Logic "1" or floating; output active				
		Input Logic "0"; output disables to high-Z				
Start up Time			5		ms	
Random Jitter	Rj		4	10	ps RMS	1-Sigma
Mechanical Shock		Per MIL-STD-202, Method 213, Condition C (100 g's, 6 ms duration, ½ sinewave)				
Vibration		Per MIL-STD-202, Method 201 & 204 (10 g's from 10-2000 Hz)				
Hermeticity		Per MIL-STD-202, Method 112, (1x10 <sup>-8</sup> atm. cc/s of Helium)				
Thermal Cycle		Per MIL-STD-883, Method 1010, Condition B (-55°C to +125°C, 15 min. dwell, 10 cycles)				
Solderability		Per EIAJ-STD-002				
Soldering Conditions		+260°C max. for 10 secs.				

1. Consult factory for availability of higher frequencies.
2. See Load circuit diagram #2. Consult factory with nonstandard output load requirements.
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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# MtronPTI Lead Free Solder Profile

