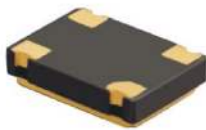


# M2 Series

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



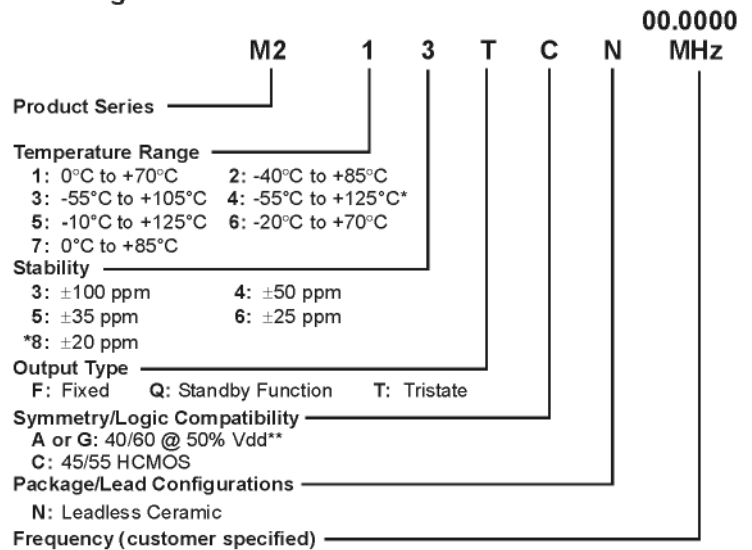
## Features:

- Leadless Chip Carrier (LCC) package
- Seam sealed package
- Tri-state or Standby function options
- Stabilities to  $\pm 20$  ppm
- Fully RoHS 6 compliant

## Applications:

- Microprocessors/Controllers, DSP
- Gig E, SONET
- Industrial Controllers
- Broadband Access
- Test & Measurement Equipment

## Ordering Information



\*Contact Factory for Availability  
 \*\* A and G codes are used interchangeably on the M2 Series  
 M2002Sxxx - Contact factory for datasheet

PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition/Notes
Frequency Range	F	1.5		135	MHz	See Note 1
Operating Temperature	T <sub>A</sub>	(See ordering information)				
Storage Temperature	T <sub>s</sub>	-55		+125	°C	
Frequency Stability	$\Delta F/F$	(See ordering information)				
Aging 1 <sup>st</sup> Year			$\pm 3$		ppm	
Thereafter (per year)			$\pm 2$		ppm	
Input Voltage	V <sub>dd</sub>	3.0	3.3	3.6	V	
Input Current	I <sub>dd</sub>			10 20 30 55	mA	1.500 to 20.000 MHz 20.001 to 50.000 MHz 50.001 to 67.000 67.001 to 135.000 MHz
Standby Current				10	$\mu$ A	"Q" Output Type Only
Output Type						HCMOS/TTL Compatible
Load				15/2	PF/TTL	See Note 2
Symmetry (Duty Cycle)		(See ordering information)				$\frac{1}{2}$ V <sub>dd</sub>
Logic "1" Level	V <sub>oh</sub>	90% V <sub>dd</sub> V <sub>dd</sub> -0.5			V	HCMOS Load TTL Load
Logic "0" Level	V <sub>ol</sub>			10% V <sub>dd</sub> 0.5	V	HCMOS Load TTL Load
Output Current				$\pm 4$	mA	
Rise/Fall Time	T <sub>r</sub> /T <sub>f</sub>			6 4 2	ns	See Note 3 1.500 to 50.000 MHz 50.001 to 80.000 MHz 80.001 to 135.000 MHz
Standby/Tristate Function		Input Logic "1" or floating; output active Input Logic "0"; output disables to high-Z				
Start up Time				10	ms	
Random Jitter	R <sub>j</sub>		4	10	ps RMS	1-Sigma
Mechanical Shock	Per MIL-STD-202, Method 213, Condition C (100 g's, 6 ms duration, $\frac{1}{2}$ 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	See solder profile, Figure 1					

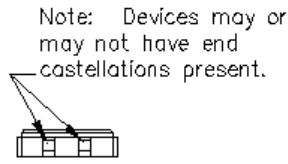
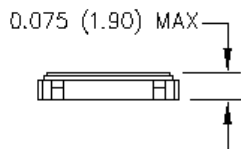
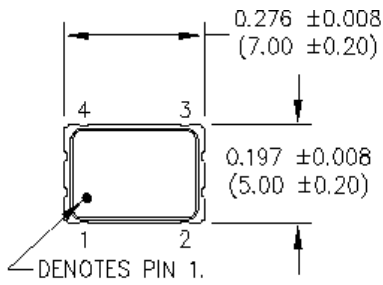
1. Consult factory for availability of higher frequencies.
2. HCMOS Load - See Load circuit diagram. Consult factory with nonstandard output load requirements.
3. Rise/Fall times are measured between 0.5 V and 2.4 V with TTL load, and between 10% V<sub>dd</sub> and 90% V<sub>dd</sub> with HCMOS load.

MtronPTI reserves the right to make changes to the product(s) and service(s) described herein without notice. No liability is assumed as a result of their use or application.

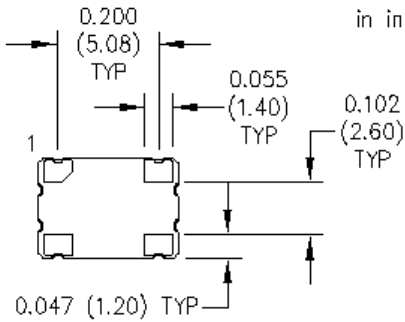
Please see [www.mtronpti.com](http://www.mtronpti.com) for our complete offering and detailed datasheets. Contact us for your application specific requirements: MtronPTI 1-800-762-8800.

# M2 Series

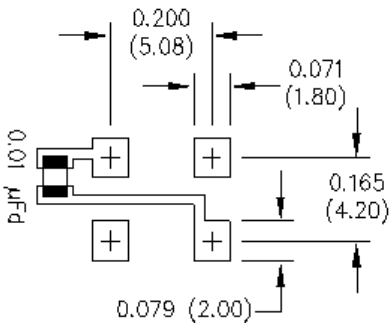
5x7 mm, 3.3 Volt, HCMOS/TTL Compatible Output, Clock Oscillator



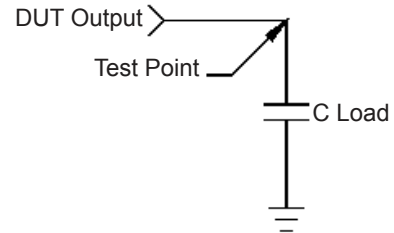
All dimensions in inches (mm).



### SUGGESTED SOLDER PAD LAYOUT



### Load Circuit Diagram



Note: C Load includes probe and fixturing.

Pin Connections	
PIN	Function
1	N/C, Tristate or Standby
2	Ground
3	Output
4	+Vdd

# MtronPTI Lead Free Solder Profile

