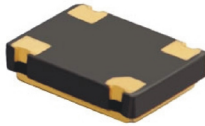
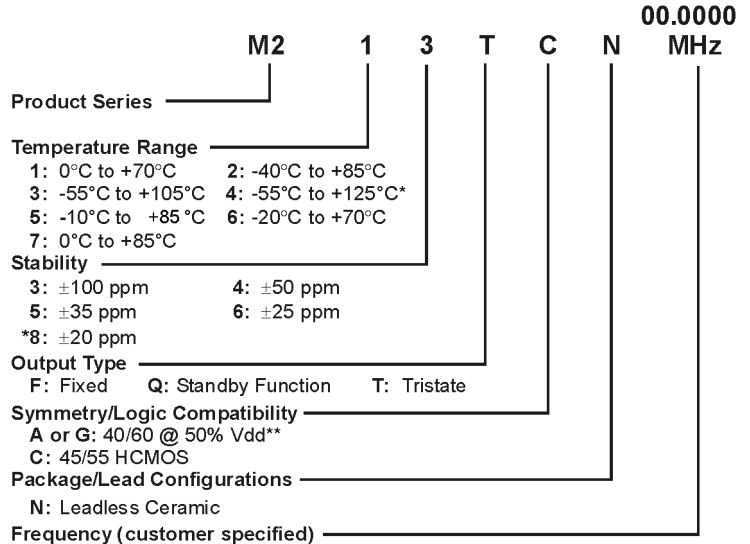


M2 Series

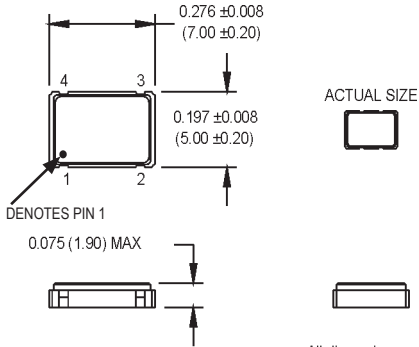
5x7 mm, 3.3 Volt, HCMOS/TTL Compatible Output, Clock Oscillator



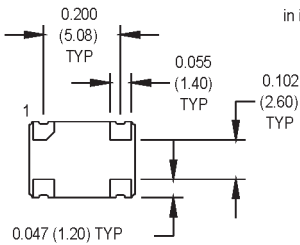
Ordering Information



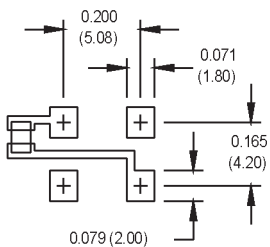
*Contact Factory for Availability
** A and G codes are used interchangeably on the M2 Series
M2002Sxxx - Contact factory for datasheet



All dimensions in inches (mm).



SUGGESTED SOLDER PAD LAYOUT



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

Pin Connections

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

PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition/Notes
Frequency Range	F	1.0		135	MHz	See Note 1
Operating Temperature	T _A	(See ordering information)				
Storage Temperature	T _s	-55		+125	°C	
Frequency Stability	$\Delta F/F$	(See ordering information)				
Aging 1st Year			±3		ppm	
Thereafter (per year)			±2		ppm	
Input Voltage	V _{dd}	3.0	3.3	3.6	V	
Input Current	I _{dd}			10 20 30 55	mA	1.000 to 20.000 MHz 20.001 to 50.000 MHz 50.001 to 67.000 MHz 67.001 to 135.000 MHz
Standby Current				10	μ A	"Q" Output Type
Output Type						HCMOS/TTL Compatible
Load				2 TTL or 15 pF		See Note 2
Symmetry (Duty Cycle)						1/2 V _{dd}
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				±4	mA	
Rise/Fall Time	T _r /T _f			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 _j		4	10	ps RMS	1-Sigma
Mechanical Shock		Per MIL-STD-202, Method 213, Condition C (100 g's, 6 ms duration, 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 ⁻⁹ 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 #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% V_{dd} and 90% V_{dd} 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 for our complete offering and detailed datasheets. Contact us for your application specific requirements: MtronPTI 1-800-762-8800.

MtronPTI Lead Free Solder Profile

