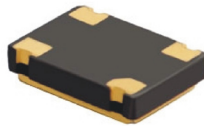


M1 Series

5x7 mm, 5.0 Volt, HCMOS/TTL Compatible Output, Clock Oscillator



Features:

- Leadless Chip Carrier (LCC) package
- Seam sealed package
- Tri-state function option
- Stabilities to ± 20 ppm
- Fully RoHS 6 compliant

Applications:

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

Ordering Information

	M1	1	3	F	A	N	00.0000 MHz
Product Series							
Temperature Range							
1: 0°C to +70°C		2: -40°C to +85°C					
4: -55°C to +125°C		6: -20°C to +70°C					
Stability							
3: ± 100 ppm		4: ± 50 ppm					
5: ± 35 ppm		6: ± 25 ppm					
*8: ± 20 ppm							
Output Type							
F: Fixed							
T: Tristate							
Symmetry/Logic Compatibility							
A: 40/60 TTL/HCMOS (50.000 MHz and below)							
C: 45/55 HCMOS							
G: 40/60 HCMOS (50.001 to 125.000 MHz)							
Package/Lead Configurations							
N: Leadless Ceramic							
Frequency (customer specified)							

*Contact Factory for Availability
M2010Sxxx - Contact factory for datasheet.

PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition/Notes
Frequency Range	F	1.5		125	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 1 st Year			± 3		ppm	
Thereafter (per year)			± 2		ppm	
Input Voltage	V _{dd}	4.5	5.0	5.5	V	
Input Current	I _{dd}			20 35/45 65	mA	1.5000 to 20.000 MHz 20.001 to 60.000 MHz 50.001 to 125.000 MHz
Output Type						HCMOS/TTL Compatible
Load				50/10 50 15	pF/TTL pF pF	See Note 2
1.500 to 50 MHz						
50.001 to 67 MHz						
67.001 to 125 MHz						
Symmetry (Duty Cycle)		(See ordering information)				
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				± 16	mA	
Rise/Fall Time	Tr/Tf			10 3	ns	See Note 3
						1.5000 to 67.000 MHz
						67.001 to 125.000 MHz
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		5	12	ps RMS	1-Sigma
Environmental						
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 ⁻⁸ 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					
Max Soldering Conditions	See solder profile, Figure 1					

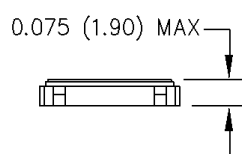
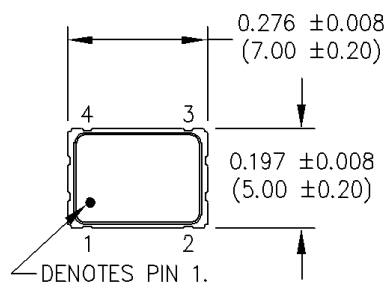
- Consult factory for availability of higher frequencies.
- HCMOS Load - See Load circuit diagram. Consult factory with nonstandard output load requirements.
- Rise/Fall times are measured between 0.5 V and 2.4 V with TTL load, and between 10% V_{dd} and 90% V_{dd} with HCMOS load.

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.

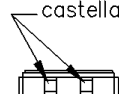
Please see www.mtronpti.com for our complete offering and detailed datasheets. Contact us for your application specific requirements: MtronPTI 1-800-762-8800.

M1 Series

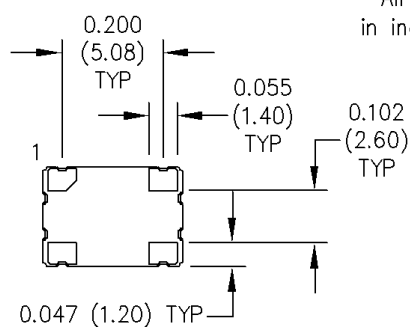
5x7 mm, 5.0 Volt, HCMOS/TTL Compatible Output, Clock Oscillator



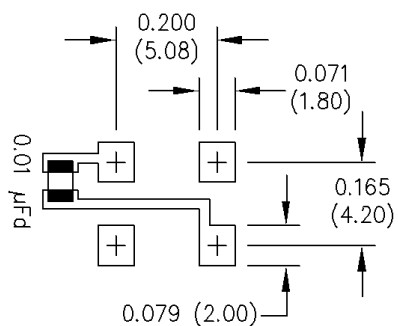
Note: Devices may or may not have end castellations present.



All dimensions in inches (mm).

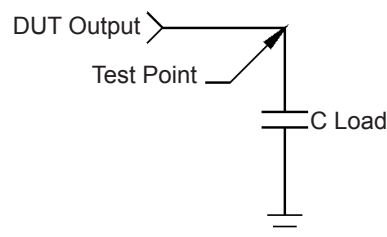


SUGGESTED SOLDER PAD LAYOUT



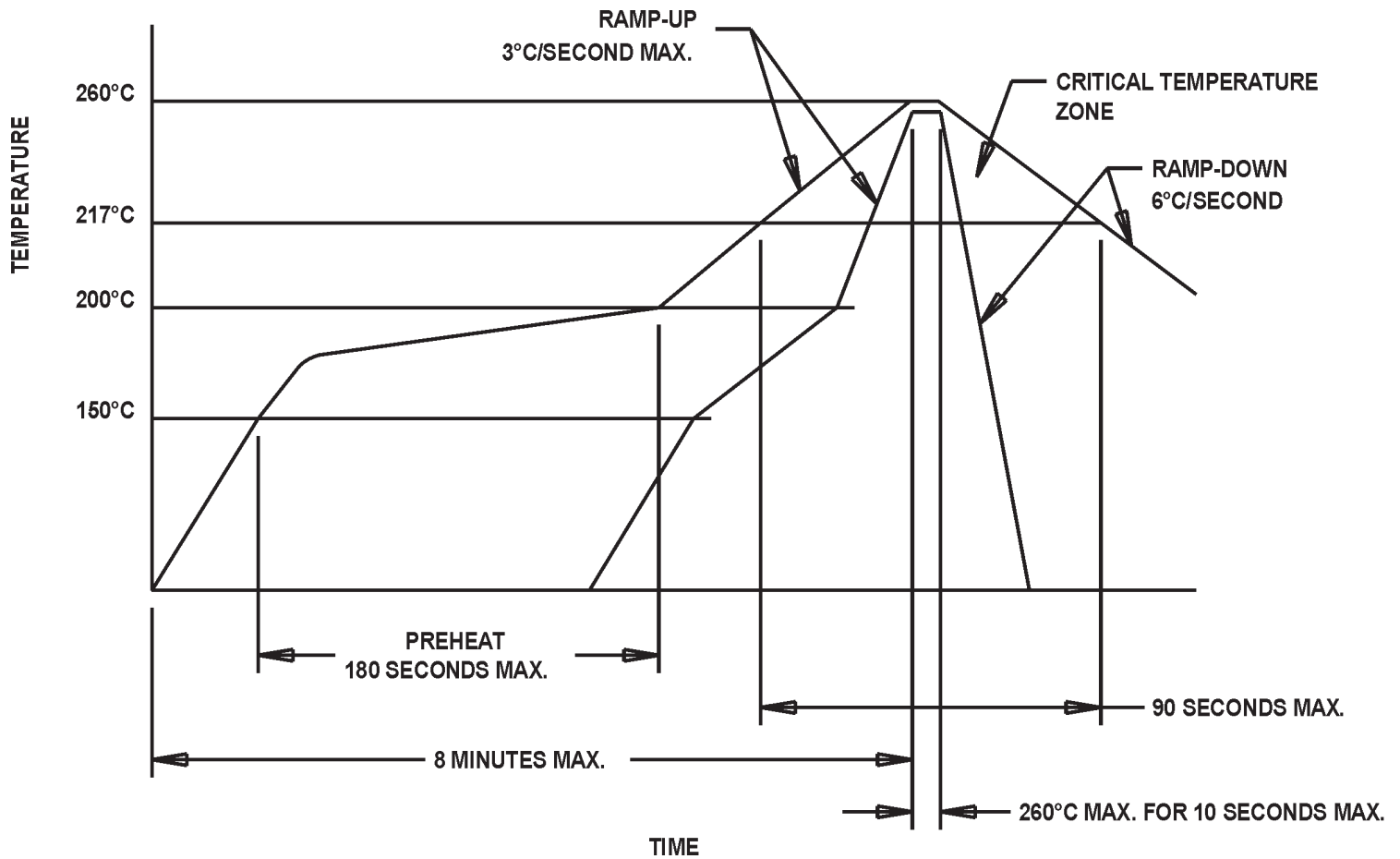
Pin Connections	
PIN	Function
1	N/C or Tristate
2	Ground
3	Output
4	+Vdd

Load Circuit Diagram



Note: C Load includes probe and fixturing.

MtronPTI Lead Free Solder Profile



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