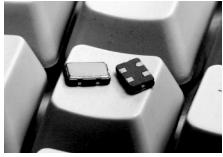


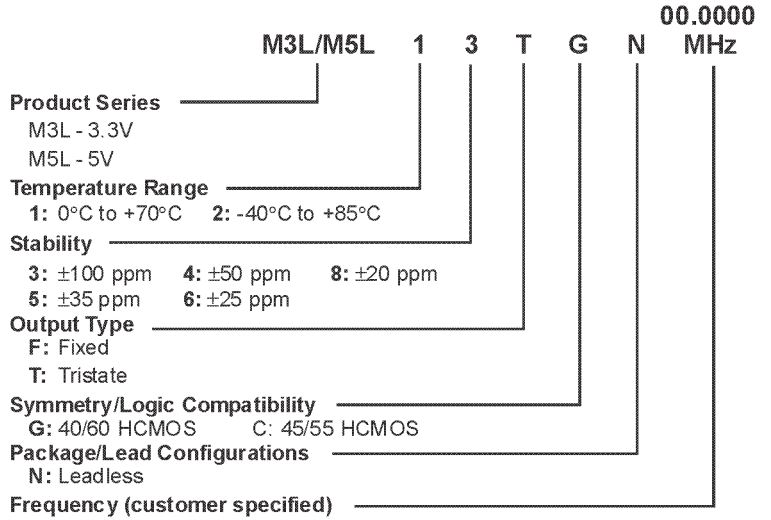
# M3L & M5L Series

3.2x5 mm, 3.3 or 5.0 Volt, HCMOS, Clock Oscillator

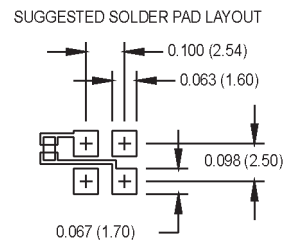
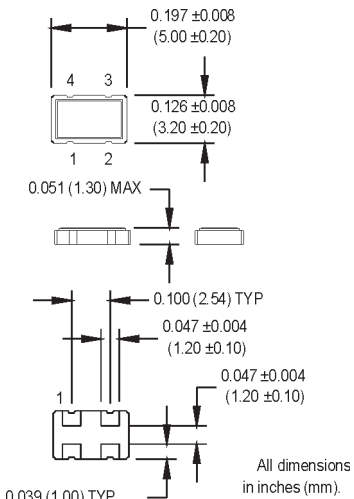


- Ultra-miniature size
- Ideal for PCMCIA cards, laptop/palmtop computers, wireless handsets, portable instrumentation

## Ordering Information



M2038Sxxx & M2039Sxxx - Contact factory for data sheets.



## Pin Connections

PIN	FUNCTION
1	Tristate
2	Ground
3	Output
4	+Vcc

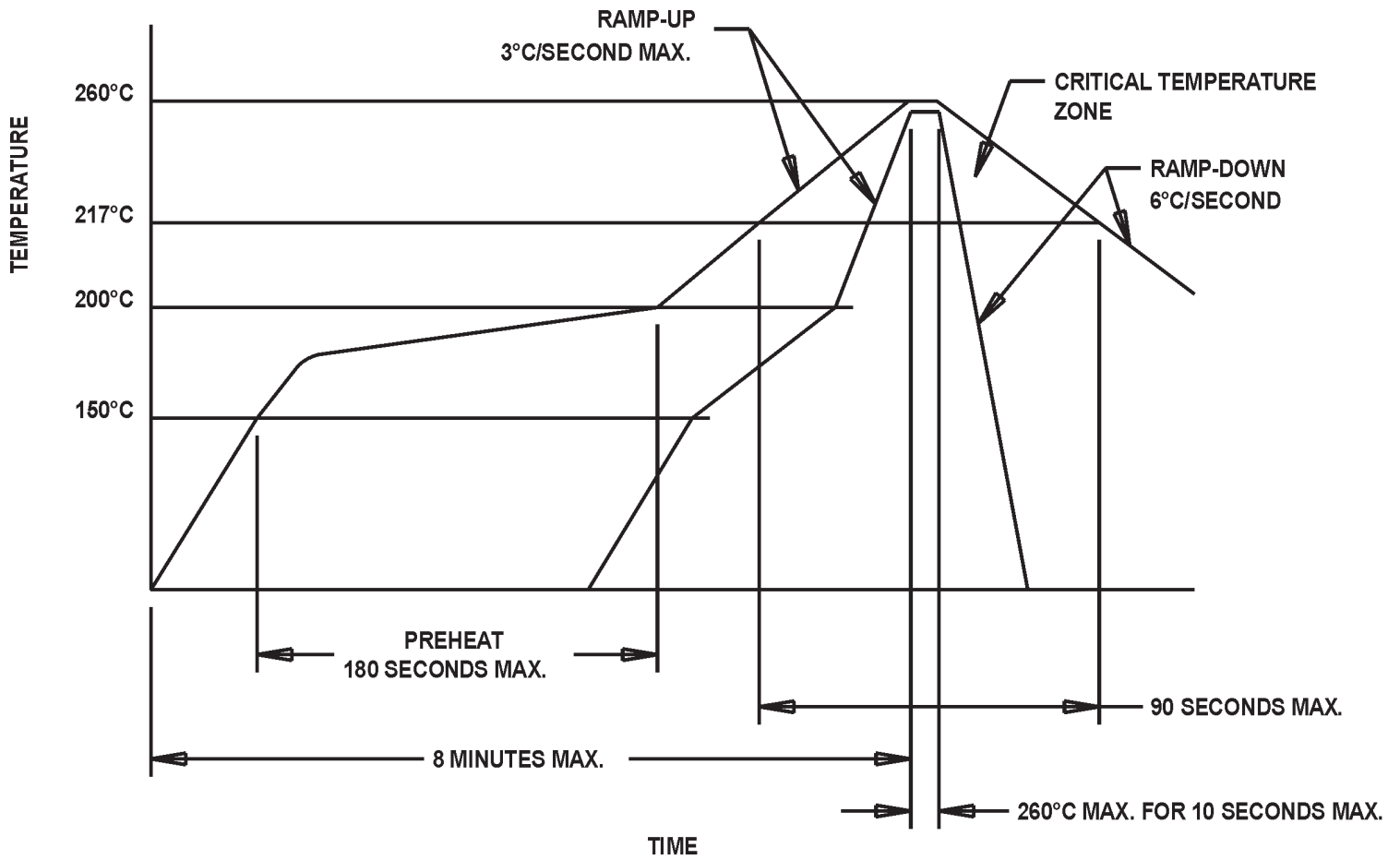
PARAMETER	Symbol	Min.	Typ.	Max	Units	Condition
Frequency Range	F	1.544		125	MHz	See Note 1
Operating Temperature	T <sub>A</sub>	(see ordering information)			°C	See ordering information
Storage Temperature	T <sub>S</sub>	-55		+125	°C	
Frequency Stability	ΔF/F	(see ordering information)			ppm	
Aging						
1 <sup>st</sup> year		-5		+5	ppm	
Thereafter (per year)		-4		+4	ppm	
Input Voltage	V <sub>dd</sub>	3.0	3.3	3.6	V	M3L
		4.5	5.0	5.5	V	M5L
Input Current	I <sub>dd</sub>					
Frequencies up to 50 MHz				35	mA	
50.001 – 67.000 MHz				45	mA	
67.001 – 125.000 MHz				55	mA	
Output Type						HCMOS
Load				15	pF	See Note 2
Symmetry (Duty Cycle)		(see ordering information)				50% V <sub>dd</sub> reference level
Logic "1" Level	V <sub>oh</sub>	90% V <sub>dd</sub>			V	
Logic "0" Level	V <sub>ol</sub>			10%	V	
Output Current				±4	mA	M3L
				±12	mA	M5L
Rise/Fall Time	T <sub>r</sub> /T <sub>f</sub>					10% to 90% V <sub>dd</sub>
frequencies up to 50 MHz				7	ns	
50.001 – 67.000 MHz				4	ns	
67.001 – 125.000 MHz				3	ns	
Tristate Function		Input Logic "1" or floating: output active				
		Input Logic "0": output to high-Z				
Start up Time				10	ms	
Random Jitter	R <sub>j</sub>		5	15	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				

1. Because this product is based on AT-strip technology, not all frequencies in the range stated are available. Contact the factory for availability of specific frequencies.
2. CMOS load - See load circuit diagram #2.

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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.

# MtronPTI Lead Free Solder Profile



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