

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

Product Series M3L/M5L 1 3 T G N 00.0000 MHz

Product Series
M3L - 3.3V
M5L - 5V

Temperature Range
1: 0°C to +70°C 2: -40°C to +85°C

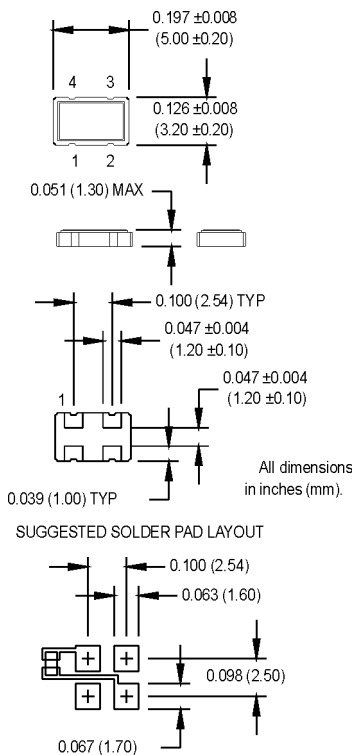
Stability
3: ±100 ppm 4: ±50 ppm 8: ±20 ppm
5: ±35 ppm 6: ±25 ppm

Output Type
F: Fixed
T: Tristate

Symmetry/Logic Compatibility
G: 40/60 HCMOS C: 45/55 HCMOS

Package/Lead Configurations
N: Leadless

Frequency (customer specified) _____



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 _A	(see ordering information)			°C	See ordering information
Storage Temperature	T _S	-55		+125	°C	
Frequency Stability	ΔF/F	(see ordering information)			ppm	
Aging						
1 st year		-5		+5	ppm	
Thereafter (per year)		-4		+4	ppm	
Input Voltage	V _{dd}	3.0	3.3	3.6	V	M3L
		4.5	5.0	5.5	V	M5L
Input Current	I _{dd}					
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 _{dd} reference level
Logic "1" Level	V _{oh}	90% V _{dd}			V	
Logic "0" Level	V _{ol}			10%	V	
Output Current				±4	mA	M3L
				±12	mA	M5L
Rise/Fall Time	Tr/Tf					10% to 90% V _{dd}
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 _j	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 ⁻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					
Soldering Conditions	+240°C max. for 10 secs.					

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.

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.