

# M6001, M6002, M6003 & M6004 Series

## 9x14 mm FR-4, 5.0 or 3.3 Volt, HCMOS/TTL, TCXO and TCVCXO



### Features:

- Operating stabilities to  $\pm 0.5$  ppm
- Stratum III stability of  $\pm 4.6$  ppm (non-holdover)

### Applications:

- Ideal for Signal Processing, Military/Avionic Communications, Flight Controls, WLAN, Basestations, DWDNM, SERDES, SONET/SDH, 10G and 40G Ethernet applications

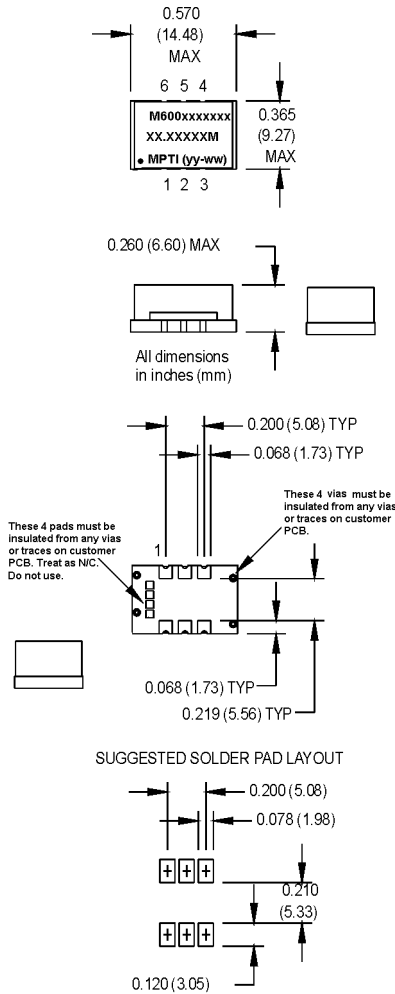
### Ordering Information

Product Series	M6001 - M6004	1	L	F	C	K	-R	00.0000	MHz
M6001 =	3.3 V TCXO								
M6002 =	5.0 V TCXO								
M6003 =	3.3 V VCTCXO								
M6004 =	5.0 V VCTCXO								
Temperature Range									
1:	0°C to +70°C								
2:	-40°C to +85°C								
8:	0°C to +50°C								
Stability									
L:	$\pm 4.6$ ppm								
K:	$\pm 2$ ppm								
J:	$\pm 1$ ppm								
G:	$\pm 0.5$ ppm (0° to 50°C only)								
Frequency Control (Pin #1)									
F:	Fixed (M6001 and M6002 only)								
V:	Voltage Controlled (M6003 and M6004 only)								
Symmetry/Logic Compatibility									
C:	45/55% CMOS								
Package/Lead Configurations									
K:	FR-4 6 pad								
D:	DIP (contact factory)								
RoHS Compliant									
Blank:	non-RoHS compliant part								
-R:	RoHS compliant part								
Frequency (customer specified)									

### Pin Connections

FUNCTION	PAD
N/C or Control Voltage	1
Tristate	2
Ground/Case	3
Output	4
N/C	5
+Vdd	6

M6001Sxxx, M6002Sxxx, M6003Sxxx & M6004Sxx - Contact factory for datasheets.



PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition/Notes	
Frequency Range	F	5		30	MHz		
Operating Temperature	T <sub>A</sub>	(See Ordering Information)					
Storage Temperature	T <sub>S</sub>	-55		+105	°C		
Frequency Stability		(See Ordering Information)					See Note 1
Aging						See Note 2	
1st Year				1.0	ppm		
10 year aging				3.0	ppm		
Input Voltage	V <sub>dd</sub>	3.15	3.3	3.45	V	M6001, M6003	
		4.75	5.0	5.25	V	M6002, M6004	
Input Current	I <sub>dd</sub>			10	mA	M6001, M6003	
				20	mA	M6002, M6004	
Pullability		$\pm 10$			ppm	M6003/M6004 only (positive slope)	
Control Voltage	V <sub>c</sub>	0.5	1.5	2.5	V	M6003/M6004 only	
Modulation Bandwidth	f <sub>m</sub>	10			kHz	M6003/M6004 only	
Input Impedance	Z <sub>in</sub>	50k			Ohms	M6003/M6004 only	
Output Type						CMOS	
Load				15	pF		
Symmetry (Duty Cycle)		(See Ordering Information)					
Logic "1" Level	V <sub>oh</sub>	90 %			V <sub>dd</sub>		
Logic "0" Level	V <sub>ol</sub>			10%	V <sub>dd</sub>		
Rise/Fall Time	Tr/Tf			3	ns		
Tristate Function		Input Logic "1": output active Input Logic "0": output disables					
Start up Time		10			ms		
Phase Noise (Typical) @19.44 MHz		10 Hz -77	100 Hz -107	1 kHz -128	10 kHz -143	100 kHz -148	Offset from carrier

1. Stability is inclusive of initial calibration, temperature, reflow, supply, load, shock, vibration, and ten year aging at 55°C.
2. "L" stability version only. All other stability options - initial calibration and deviation vs. temperature. TTL Load – see load circuit diagram #1. HCMOS 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

