M6001, M6002, M6003 & M6004 Series

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

This product is not recommended for new designs

Features:

- Operating stabilities to ± 0.5 ppm
- Stratum III stability of ± 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

M6001 - M6004 1 L F C K -R 00.0000 MHz

Product Series
- **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:** ± 4.6 ppm **K:** ±2 ppm
- **J:** ± 1 ppm **G:** ± 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)

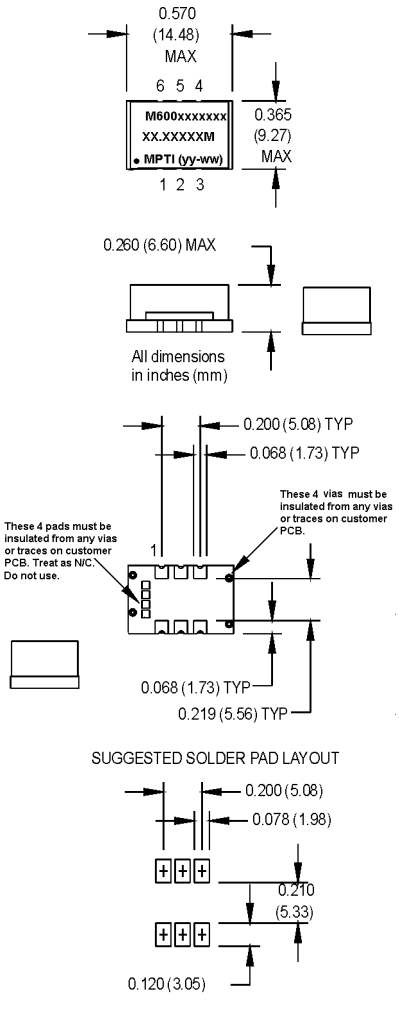
Symmetry/Logic Compatibility
- **C:** 45/55% CMOS

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)

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



Pin Connections

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

Electrical Specifications

PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition/Notes
Frequency Range	F	5		30	MHz	
Operating Temperature	T_A	(See Ordering Information)				
Storage Temperature	T_S	-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	Vdd	3.15	3.3	3.45	V	M6001, M6003
		4.75	5.0	5.25	V	M6002, M6004
Input Current	Idd			10	mA	M6001, M6003
				20	mA	M6002, M6004
Pullability		±10			ppm	M6003/M6004 only (positive slope)
Control Voltage	Vc	0.5	1.5	2.5	V	M6003/M6004 only
Modulation Bandwidth	fm	10			kHz	M6003/M6004 only
Input Impedance	Zin	50k			Ohms	M6003/M6004 only
Output Type						CMOS
Load				15	pF	
Symmetry (Duty Cycle)		(See Ordering Information)				
Logic "1" Level	Voh	90 %			Vdd	
Logic "0" Level	Vol			10%	Vdd	
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)	**10 Hz**	**100 Hz**	**1 kHz**	**10 kHz**	**100 kHz**	**Offset from carrier**
@19.44 MHz	-77	-107	-128	-143	-148	

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.

MtronPTI Lead Free Solder Profile