

# M6003 & M6004 Series

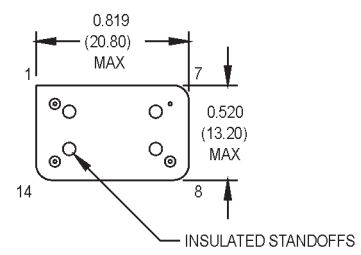
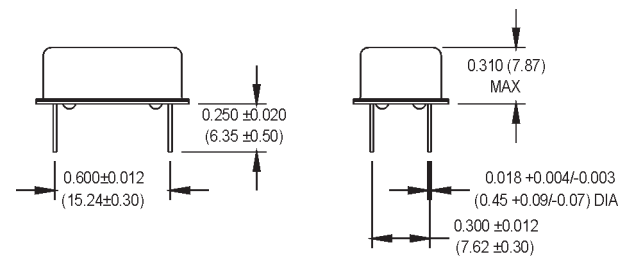
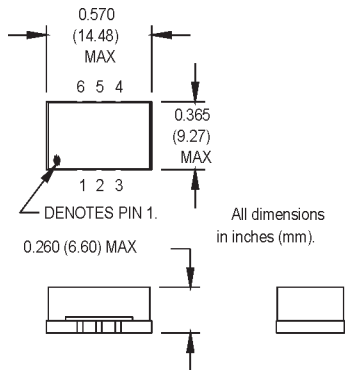
## 9x14 mm FR-4, 5.0 or 3.3 Volt, HCMOS/TTL, TCXO



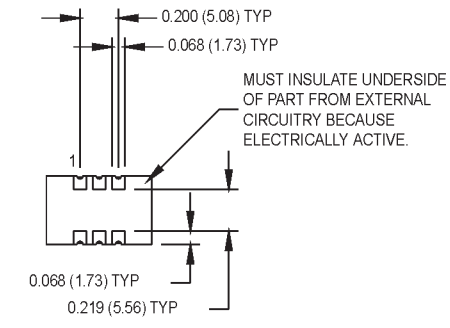
- Stratum III compliant stability and aging
- Ideal for WLL/DWDM/ATM, and SONET/SDH applications

### Ordering Information

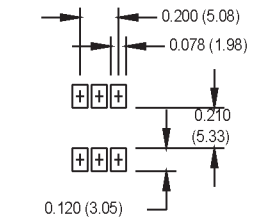
M6003/M6004	1	L	V	A	D	00.0000 MHz
<b>Product Series</b> M6003 = 3.3 V M6004 = 5.0 V						
<b>Temperature Range</b> 1: 0°C to +70°C    2: -40°C to +85°C 6: -20°C to +70°C    8: 0°C to +50°C						
<b>Stability</b> L: ±4.6 ppm						
<b>Frequency Control (Pin #1)</b> V: ±25 ppm Min.						
<b>Symmetry/Logic Compatibility</b> A: 40/60 CMOS/TTL B: 45/55 TTL C: 45/55 CMOS						
<b>Package/Lead Configurations</b> D: DIP; Nickel Header    K: FR-4, 6 Pad						
<b>Frequency (customer specified)</b>						



All dimensions in inches (mm).



### SUGGESTED SOLDER PAD LAYOUT



### Pin Connections

FUNCTION	SMT	DIP
Control Voltage	1	1
Tri-state	2	
Ground/Case	3	7
Output	4	8
N/C	5	
+Vdd	6	14

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# M6003 & M6004 Series

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



PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition
Frequency Range	F	10		30	MHz	
Frequency Stability	$\Delta F/F$	(See Ordering Information)				
Operating Temperature	TA	(See Ordering Information)				
Storage Temperature	TS	-55		+85	°C	
Input Voltage	Vdd	3.135 4.75	3.3 5.0	3.465 5.25	VDC VDC	
Input Current @ 20 MHz	Idd		5.0 12	8.5 18	mA mA	M6003 M6004
Symmetry (Duty Cycle)		(See Ordering Information)				
Load		5 TTL or 15 pF Max.				
Rise/Fall Time	Tr/Tf			10	ns	
Logic "1" Level	Voh	2.4 90			VDC %	TTL Load HCMOS Load
Logic "0" Level	Vol			0.4 10	VDC %	TTL Load HCMOS Load
Phase Jitter	$\phi J$		0.6	1.2	ps RMS	Integrated 12 kHz - 20 MHz
Phase Noise @ 19.44 MHz	10 Hz -72	100 Hz -102	1 kHz -129	20 kHz -146	100 kHz -150	Offset from carrier dBc/Hz
Aging <sup>1</sup>						
Modulation Bandwidth	fm	10			kHz	
Input Impedance (Pin 1)	Zin	100			K $\Omega$	
Control Voltage	Vc	0	1.65 2.5	3.3	VDC VDC	M6003 M6004
Center Frequency	VcO		1.65 2.5		VDC VDC	M6003 M6004
Pullability		(See Ordering Information)				
Deviation Slope						Positive, Monotonic
Tri-state Function		Logic Level "1" for enabled output(s) Logic Level "0" for disabled output(s)				
Environmental	Mechanical Shock	Per MIL-STD-202, Method 213, Condition C				
	Vibration	Per MIL-STD-202, Method 201 & 204				
	Reflow Solder Conditions	See "Figure 2" on page 147				
	Solderability	Per EIAJ-STD-002				

1. Stability is inclusive of 5 year aging at 25°C.

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M-tron Industries, Inc., PO Box 630, Yankton, SD 57078-0630, USA Phone: 605-665-9321 or 1-800-762-8800 Fax: 605-665-1709 Website: www.mtron.com  
 M-tron Industries Limited, 1104 Shanghai Industrial Investment Building, 48-62 Hennessy Road, Wanchai, Hong Kong, China Phone: 852-2866-8023 Fax: 852-2529-1822