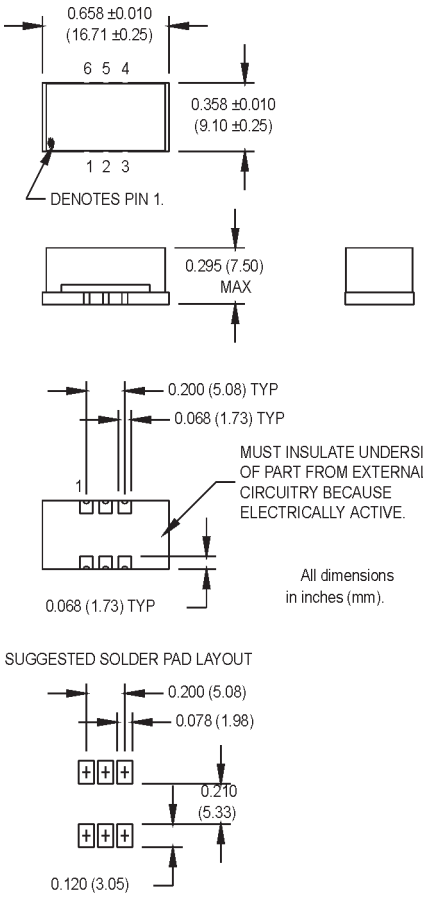
M5001 & M5002 Series

9x16 mm FR-4, 5.0 or 3.3 Volt, CMOS/TTL/PECL/LVDS, HPXO

- Excellent stability inclusive of all variations and 20 year life
- Ideal for SONET, PCS base stations and reference clock applications



SUGGESTED SOLDER PAD LAYOUT

Ordering Information

M5001/M5002	2	8	R	C	K	00.0000 MHz

Product Series
M5001 = 3.3 V
M5002 = 5.0 V*

Temperature Range
1: 0°C to +70°C **2:** -40°C to +85°C
6: -20°C to +70°C **7:** 0°C to +85°C

Stability
6: ±25 ppm **8:** ±20 ppm
D: ±15 ppm **E:** ±10 ppm

Output Type
R: Complementary tri-state (LVPECL/LVDS)
T: Tri-state (LVCMOS)

Symmetry/Logic Compatibility
D: 45/55% LVCMOS/TTL **L:** 45/55% LVDS
P: 45/55% LVPECL

Package/Lead Configurations
K: FR-4, 6 Pad

Frequency (customer specified)

* Contact the factory for 5.0 V availability.

Pad Connections

PIN	FUNCTION
1	N/C
2	Tri-state
3	Ground
4	Output 1
5	Output 2
6	+Vcc/Vdd

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
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Revised 7/18/03

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	PARAMETER	Symbol	Min.	Typ.	Max.	Units	Condition
Electrical Specifications	Frequency Range	F	1		160	MHz	LVCMOS
			1		800	MHz	LVPECL/LVDS
	Frequency Stability [1]	ΔF/F	(See Ordering Information)				
	Operating Temperature	TA	(See Ordering Information)				
	Input Voltage	Vcc/Vdd	3.0	3.3	3.6	VDC	LVCMOS/LVPECL/LVDS
	Input Current [2]	Icc/Idd	5		50	mA	LVCMOS
			5		75	mA	LVDS
			50		120	mA	LVPECL
	Symmetry (Duty Cycle)		(See Ordering Information)				
	Load		2 TTL or 15 pF Max.				LVCMOS/TTL
			50 Ohms to Vcc -2 VDC				LVPECL
			50 Ohm Differential Load				LVDS
	Rise/Fall Time	Tr/Tf	2		10	ns	LVCMOS
			0.25		3	ns	LVPECL/LVDS
	Logic "1" Level	Voh	2.5			VDC	LVCMOS
			2.2		2.4	VDC	LVPECL
			1.375			VDC	LVDS
	Logic "0" Level	Vol			0.5	VDC	LVCMOS
			1.4		1.7	VDC	LVPECL
					1.125	VDC	LVDS
	Phase Jitter	ϕ J			4	ps RMS	Integrated 12 kHz - 20 MHz
							Or 50 kHz to 80 Mhz
	Phase Noise		-105 dBc/Hz at 10 kHz typical at 622.080 MHz				LVPECL
	Aging				6	ppm	20 years
	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 E					
	Thermal Shock	Per MIL-STD-883, Method 1011, Condition A					
	Vibration	Per MIL-STD-883, Method 2007, Condition A					
	Reflow Solder Conditions	See "Figure 2" on page 147					

1. Stability includes initial tolerance, deviation over temperature, supply and load variation, and aging for 20 years @ 25°C.
2. Actual value of this parameter is frequency dependent.

HPXO

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