

C-MOS HYBRID CRYSTAL CLOCK OSCILLATORS

CO-3000 SERIES

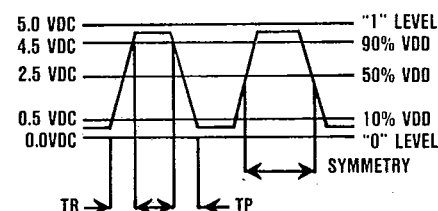
The CO-3000 series clock oscillators are hermetically sealed in a rugged welded metal enclosure. The pin configuration corresponds to the standard 14 pin DIP layout.

For further information or assistance with applications, please contact our representative or factory sales engineering personnel.

FEATURES

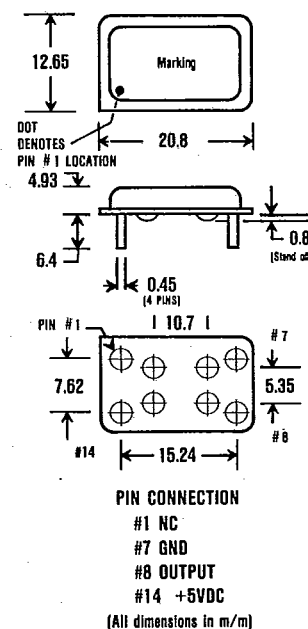
Frequency Range	: 4.0 MHz to 20.0 MHz
Operating Temperature Range (OTR)	: -10 to +70°C
Storage Temperature Range	: -55 to +125°C
Input Voltage (VDD)	: +5V $\pm$ 10%
Overall Frequency Stability over OTR	: $\pm$ 100ppm

OUTPUT WAVE FORM



SPECIFICATIONS

SUPPLY CURRENT	Maximum at +25°C	Typical
4.0 to 20.0 MHz		
FO = 4.0 MHz		5 mA
FO = 10.0 MHz		6 mA
FO = 20.0 MHz		7 mA
OUTPUT VOLTAGE	Logic "0" Level	Logic "1" Level
Minimum		4.5V (90% VDD)
Maximum	0.5V (10% VDD)	
	Typical	Maximum
(TR) Rise Time (10%-90% VDD)	5 nS	10 nS
(TR) Fall Time (90%-10% VDD)	5 nS	10 nS
SYMMETRY (50% VDD)	50 $\pm$ 2% Typical	50 $\pm$ 5% Maximum
START UP TIME	Maximum	Typical
4.0 to 20.0 MHz	5.0 mS	
4.0 to 6.0 MHz		1.0 mS
6.1 to 12.0 MHz		0.5 mS
12.1 to 20.0 MHz		0.5 mS
RISE/FALL TIME AT MAX. LOAD	Maximum	Typical
4.0 to 6.0 MHz CL=150 pf	35/25 nS	24/17 nS
6.1 to 12.0 MHz CL=100 pf	23/17 nS	16/11 nS
12.1 to 20.0 MHz CL= 50 pf	15/15 nS	8/ 6 nS



ENVIRONMENTAL TESTS

Temperature Cycle	$\pm$ 5ppm max. 0 to +120°C, 3 cycles, 2 hours max. each, 25 $\pm$ 2°C reference.
Humidity	85% relative humidity, 85°C 250 hours.
MECHANICAL TESTS	
Gross Leak Test	All units 100% leak tested in deionized H ₂ O.
Hermetic Seal	Leak rate less than 2 $\times$ 10 ⁻⁸ atmos. cc/sec of helium.
Seal Strength	20 lbs. max. force perpendicular to top and bottom.
Bend Test	Will withstand max. bend of 90° reference to base for 2 bends.
Shock	1000 G's 0.35 mS ½ Sine Wave 3 shocks each plane
Vibration	10-55 Hz 0.060" D.A. 55-2000 Hz, 35 G's Duration Time 12 hours
Marking Ink	Epoxy Heat cured.

LEIGH

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