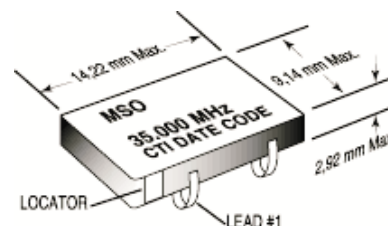


5V 9x14mm Surface Mount Crystal Clock Oscillators

- TTL/CMOS Compatible
- Anti-Static Tube or Tape & Reel Packaging
- 1.5 to 40 MHz Frequency Range
- 40/60% Symmetry Standard
45/55% Symmetry Available
- ± 100 ppm Stability Standard
 ± 50 ppm Stability Available
- Enable Disable Standard



Not Recommended for New Designs. Refer to CMO5 Series as an Alternative.

ELECTRICAL SPECIFICATIONS

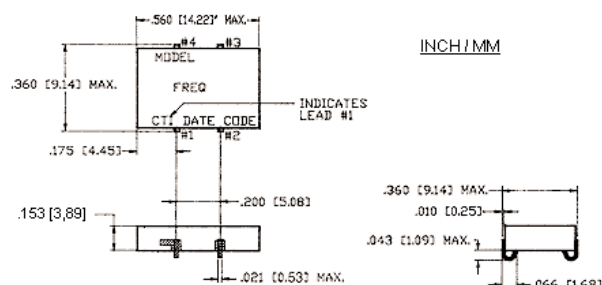
MODEL	MSO	MSO5
Frequency Range (MHz)	1.5 to 40	
Frequency Stability (ppm)		
Overall (Typical)	Inclusive of calibration, temperature, voltage, load, shock, vibration, aging	
0°C to 70°C	± 100	± 50
-40°C to +85°C	± 100	N/A
Temperature Range (°C)		
Operating	-40°C to +85°C	
Storage	-55°C to +125°C	
Supply Voltage (V)	+5.0 $\pm 10\%$	
Voltage Stability (ppm)	± 3	
Input Current (mA)		
1.5MHz to 20MHz	<17	
> 20MHz	<26	
Symmetry (%) TTL/CMOS	40/60	
T_R and T_F (ns)	<5	
Load	10TTL/CMOS Compatible	
"0" Level (V_{OL})	0.5V max. @ $I_{OL} = 16$ mA	
"1" Level (V_{OH})	VCC-0.4V min. @ $I_{OH} = -1$ mA	
Start up Time (ms)	<5	

PART NUMBERING GUIDE

MSOXXXXE - Specify Frequency

- Blank = 0°C to 70°C Operating Temperature
- "M" = -40°C to 85°C Operating Temperature
- Blank = 40/60% Symmetry
- "S" = 45/55% Symmetry
- Blank = ± 100 ppm Stability
- "5" = ± 50 ppm Stability

5V 9x14mm Surface Mount Crystal Clock Oscillators

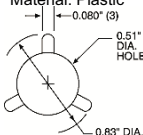


PIN	FUNCTION
1	Enable/Disable
2	Ground
3	Output
4	+ V _{CC}

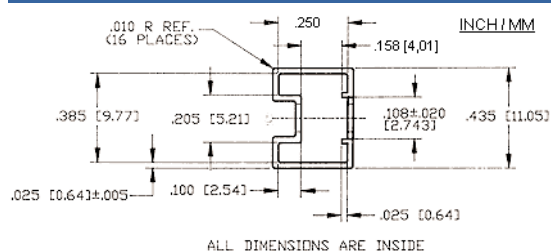
TAPE & REEL SPECIFICATIONS

Tape & Reel
Shipping Tape
 Size: 24mm
 Material: Black PVC, Conductive .012" thick
Shipping Reel
 Size: 13" diameter
 Material: Plastic

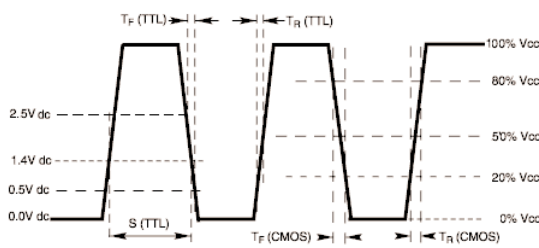
13" Reel
 Tape Length: 16.5 yds
 Max. No. of Pockets: 750
 Leader Length: 16" min.
 Trailer Length: 14" min.
 Q.C. Sample Quantity: 10 pcs.
 Product/Reel: 500
 Cover Tape Thickness: .002"
 Cover Peel Strength: 75g
 Note: Minimum Order is 500



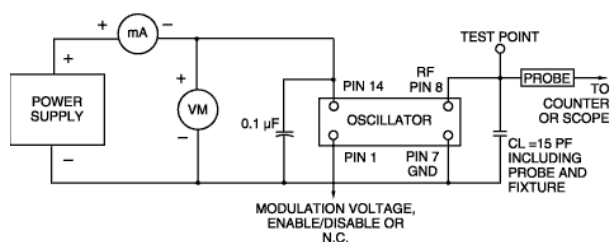
SHIPPING TUBE CROSS SECTION



OUTPUT WAVEFORM



TEST CIRCUIT DIAGRAM



MECHANICAL AND ENVIRONMENTAL SPECIFICATIONS

TEST METHODS	REFERENCE PROCEDURES	DESCRIPTION
Temperature Cycle	MIL-STD-833, Mtd 1010, Cond. B	-55°C to +125°C; Air-to-Air; 100 cycles; 10 min. dwell
Mechanical Shock	MIL-STD-883, Mtd 2002, Cond. B	1500 g's
Vibration	MIL-STD 883, Mtd 2007, Cond. B	20-2000 Hz; 0.06 inch; 15g's; 3 planes
Humidity Steady State	MIL-STD-202, Mtd 103	40°C; 90%-95% R.H.; 56 days
Thermal Shock	MIL-STD-883, Mtd 1011.7 Cond. B	100°C to 0°C; Water-to-Water; 15 cycles
Electrostatic Discharge	MIL-STD-883, Mtd 3015 Class II	2 KV to 4 KV Threshold
Solderability	MIL-STD-883, Mtd 2022.2	Solder dip; Meniscograph Criteria
Hermeticity	MIL-STD-883, Mtd 1014.8, Cond. A1	Mass spectro. 2 x 10 ⁻⁸ atmos. CC/sec He
Resistance to Soldering	MIL-STD-202, Mtd 210D, Cond. J	235°C; 30 seconds
Lead Integrity	MIL-STD-883, Mtd 2004.5, Cond. A, B1	Lead tension & bend stress
Marking Permanence	MIL-STD-883, Mtd 2015.8	Resistance to solvents
Life Test	MIL-STD-883, Mtd 1005.6	125°C. powered. 1000 hours minimum