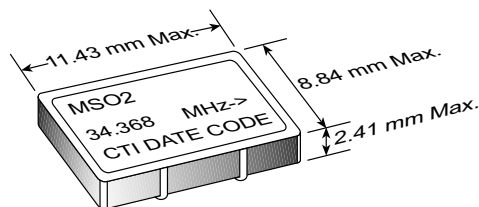


5V 9x11mm Surface Mount Crystal Clock Oscillators

- TTL/CMOS Compatible
- Tri-State Feature for Auto Test Systems
- Anti-Static Tube or Tape & Reel Packaging
- 1.5 to 40 MHz Frequency Range
- ± 20 ppm Stability 0°C to 70°C
- ± 32 ppm Stability -40°C to 85°C
- 40/60% Symmetry Standard
- 45/55% Symmetry Available
- Seam Sealed, Resistance Welded Package



ELECTRICAL SPECIFICATIONS

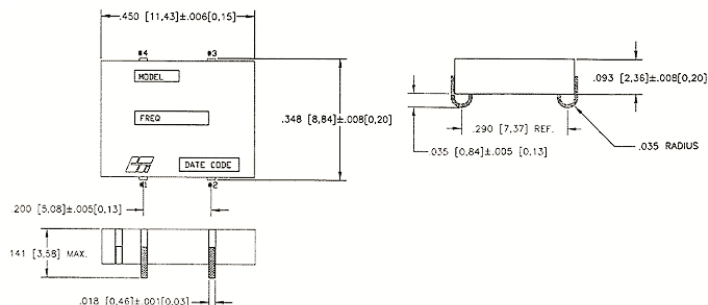
MODEL	MSO2
Frequency Range (MHz)	1.5 to 40
Frequency Stability (ppm)	
Overall (Typical)	Inclusive of calibration, temperature, voltage, load, shock, vibration, aging
0°C to 70°C	± 20
-40°C to +85°C	± 32
Temperature Range (°C)	
Operating	-40°C to +85°C
Storage	-55°C to +125°C
Supply Voltage (V)	+5.0 $\pm 1\%$
Input Current (mA)	≤ 26 @ 4 MHz
Symmetry (%) TTL/CMOS	40/60
T_R and T_F (ns)	< 5
"0" Level (V_{OL})	0.5V max. @ $I_{OL} = 16$ mA
"1" Level (V_{OH})	VCC-0.4V min. @ $I_{OH} = -1$ mA
Load	10TTL/CMOS Compatible
Start up Time (ms)	< 5

PART NUMBERING GUIDE

MSO2 XX - Specify Frequency

- "Blank" = 0°C to 70°C Operating Temp.
- "M" = -40°C to +85°C Operating Temp.
- "Blank" = TTL/CMOS 40%/60%
- "C" = CMOS 45%/55%
- "T" = TTL 45%/55%

5V 9x11mm Surface Mount Crystal Clock Oscillators

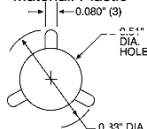


PIN	FUNCTION
1	Enable/Disable
2	Ground
3	Output
4	+ V _{CC}

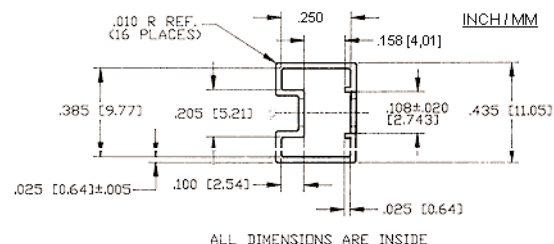
TAPE & REEL SPECIFICATIONS

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

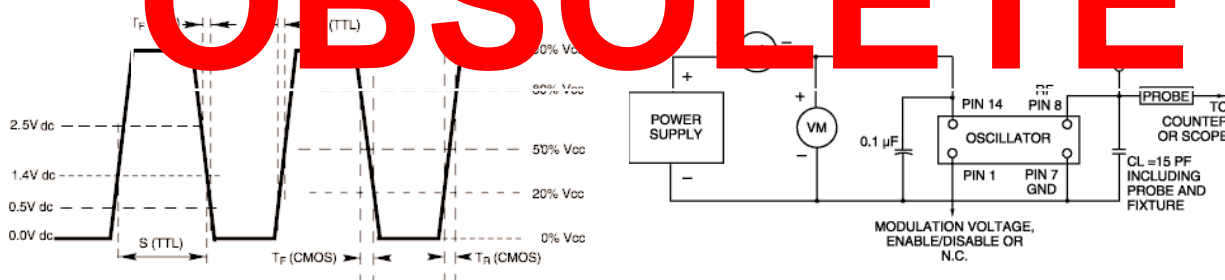
13" Reel
Tape Length 16.5 yds
Max. No. of Pockets: 750
Leader Length: 16" min.
Trailer Length: 14" min.
Q.C. Sample Quantity: 10 pcs.
Product/Reel: 500
Cover Tape Thickness: .002"
Cover Peel Strength: 75g
Note: Minimum Order is 500



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