

3.3V FR-4 Surface Mount Crystal Clock Oscillators

- FR-4 Based SMT
- 65MHz to 105MHz Frequency Range
- -10°C to 70°C Operating Temperature
"M" Models Operate from -40°C to 85°C
- 40/60% Symmetry Standard
45/55% Available
- ±100ppm Stability Standard
Tighter Stabilities Available
±20ppm Stability:- Contact Factory
±25ppm Stability: F1325C
±50ppm Stability: F1350C
- Hermetically Sealed Crystal for Predictable Long Term Aging & Reliability
- Tri-State Output Standard



ELECTRICAL SPECIFICATIONS

MODEL	F1300C
Frequency Range (MHz)	65 to 105
Frequency Stability (ppm)	
Overall	Inclusive of calibration, temperature, voltage, load, shock,vibration, aging
-10°C to 70°C	±100
Temperature Range (°C)	
Operating	-40°C to +85°C
Storage	-40°C to +85°C
Supply Voltage (V)	+3.3 ±5%
Supply Current (mA)	<30
Output Specifications	
Output	CMOS
"0" Level (V _{OL})	0.9 V _{CC}
"1" Level (V _{OH})	0.1 V _{CC}
Load	15pF
T _R & T _F (ns)	<3 (20 - 80% V _{CC})
Symmetry (%)	40/60 @ 0.5V _{CC}
Jitter (Typical)	5ps RMS @ 100MHz
Start up Time (ms)	<10

PART NUMBERING GUIDE

F13XXCXX - Specify Frequency

 "Blank" = -10°C to 70°C Operating Temperature

 "M" = -40°C to 85°C Operating Temperature

 "Blank" = 40/60% Symmetry

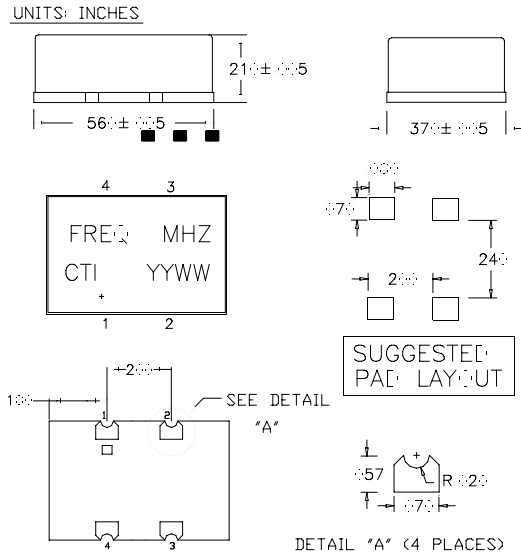
 "S" = 45/55 Symmetry

 "25" = ±25ppm (-10 to 70C only)

 "50" = ±50ppm

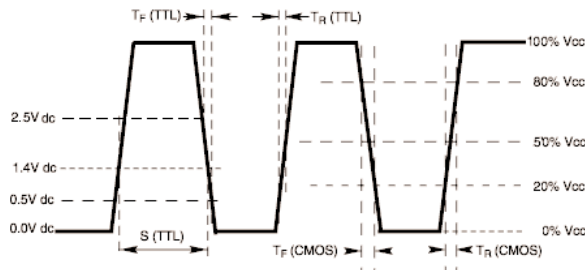
 "00" = ±100ppm

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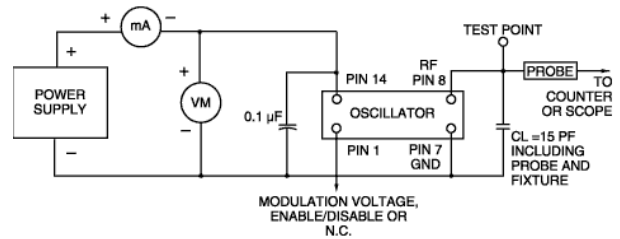


PIN	FUNCTION
1	Tri-State
2	Ground
3	Output
4	+V _{CC}

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