



Features and Benefits

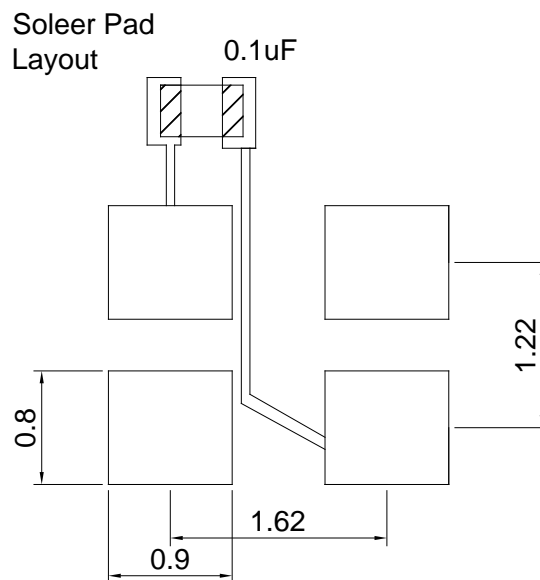
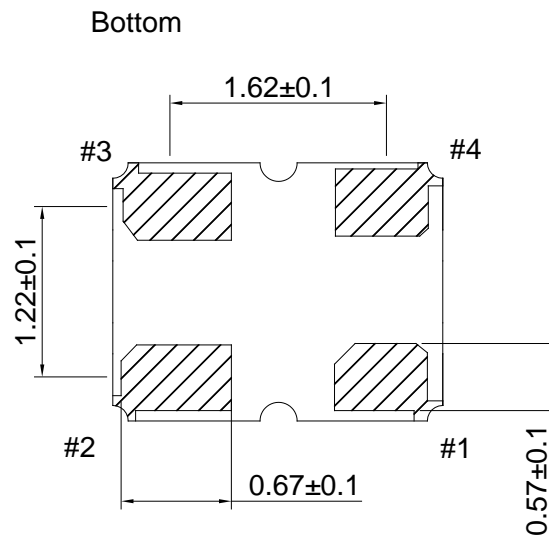
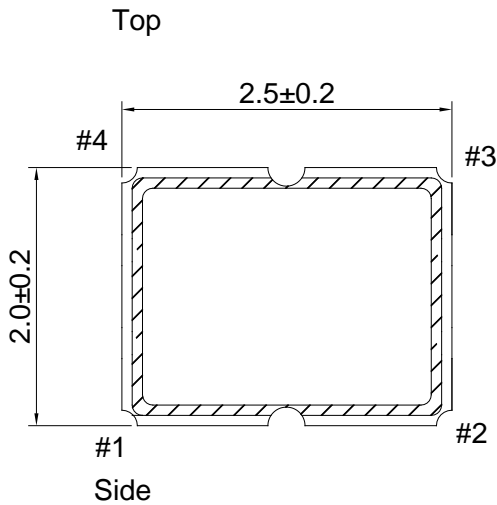
- Tight Tolerance: +/-4 ppm accuracy @25°C, +/-4 ppm over -40°C to +85°C
- LVCMOS Output Logic
- Tight symmetry (45 to 55%) available.
- Operation voltage: 1.8V, 2.5V, 3.3V
- Tri-state enable/disable.
- Femto second phase jitter and -152dBc/Hz at 10kHz offset

Typical Applications

- Wireless Connectivity
- Video Distribution

Mechanical Drawing & Pin Connections

Drawing No: MD160028-1



Pin Connection

Name	Connection
Pin 1	Tri-state
Pin 2	GND
Pin 3	OUTPUT
Pin 4	VDD

Unit : mm
1mm=0.0394inch

To ensure optimal oscillator performance, place a by-pass capacitor of 0.1uF as close to the part as possible between Vdd and GND pads.



Specifications

XO Specification	3.3V		2.5V		1.8V		Unit
	Min.	Max.	Min	Max.	Min.	Max.	
Supply Voltage Variation(VDD)+/-10%	2.97	3.63	2.25	2.75	1.62	1.98	V
Frequency Range	19	60	19	60	19	60	MHz
Supply Current 19 ≤ Fo ≤ 60MHz	--	10	--	7	--	5	mA
Duty Cycle	45	55	45	55	45	55	%
Output Level(CMOS) Output High(Logic"1")	2.97		2.25		1.62		V
Output Low(Logic"0")		0.33		0.25		0.18	
Transition Time:Rise/ Fall Time+		8		8		8	nSec
Start Time		5		5		5	mSec
Tri-State(input to Pin 1)Enable (High voltage or floating)	2.31		1.75		1.26		V
Disable (Low voltage or GND)		0.99		0.75		0.54	
RMS Phase Jitter(integrated 12kHz ~ 20MHz)		1		1		1	pSec
Phase Noise @26MHz 10Hz		-90		-90		-90	dBc/Hz
100Hz		-115		-115		-115	dBc/Hz
1kHz		-136		-136		-136	dBc/Hz
10kHz		-152		-152		-152	dBc/Hz
Aging(@25°C 1 st year)		+/-1		+/-1		+/-1	ppm
Storage Temp. Range	-55	125	-55	125	-55	125	°C

Standard frequencies are frequencies which the crystal has been designed and does not imply a stock position
 +Transition times are measured between 10% and 90% of VDD, with an output load of 15pF

Freq. Stability vs. Temp. Range

Stability vs. Temperature Range Availability			
Stability in ppm	Temperature Range		
	-10°C to +60°C	-20°C to +70°C	-40°C to +85°C
±5	Available	Conditional	Not Available
±10	Available	Available	Available
±15	Available	Available	Available

*Inclusive of calibration @25°C, operating temperature range, input voltage variation, load variation, aging(1st year), shock, and vibration.

Note: Not all combination of options are available. Other specifications may be available upon request.