

# EQTD15E6H-19.200M

[Click part number to visit Part Number Details page](#)

## REGULATORY COMPLIANCE (Data Sheet downloaded on Jul 14, 2020)


[Click badges to download compliance docs](#)

Regulatory Compliance standards are subject to updates by governing bodies. Click the badges to download the latest compliance docs for this part number directly from Ecliptek.



## ITEM DESCRIPTION

Temperature Compensated Quartz Crystal Clock Oscillators TCXO Clipped Sinewave 3.0Vdc 4 Pad 5.0mm x 7.0mm Ceramic Surface Mount (SMD) 19.200MHz -30°C to +75°C

## ELECTRICAL SPECIFICATIONS

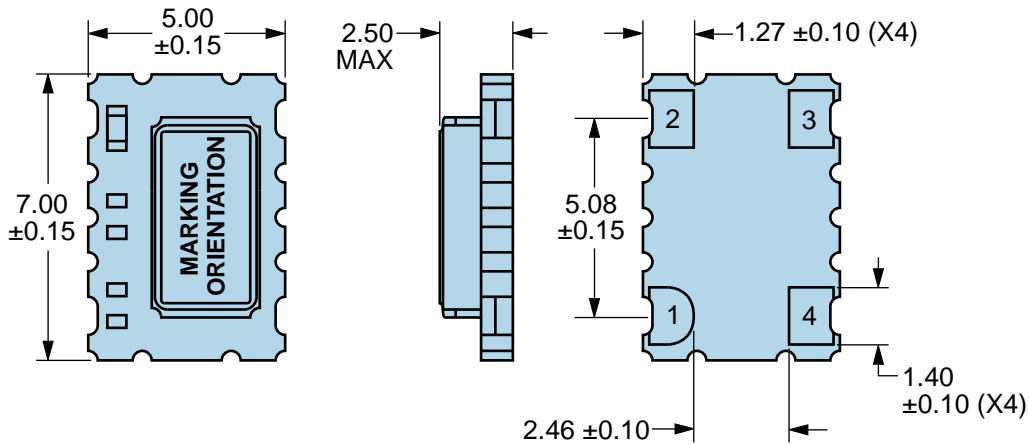
Nominal Frequency	19.200MHz
Frequency Stability	±1.5ppm Maximum (Inclusive of Operating Temperature Range, at Vdd=3.0Vdc)
Frequency Stability vs. Frequency Tolerance	±1.0ppm Maximum (at 25°C ±2°C, at Vdd=3.0Vdc, Pre-Reflow)
Frequency Stability vs. Input Voltage	±0.2ppm Maximum (±5%)
Frequency Stability vs. Load	±0.2ppm Maximum (±1kOhm//±1pF)
Frequency Stability vs. Reflow	±1ppm Maximum (at 25°C, 24 hours after reflow, 1 time)
Frequency Stability vs. Aging	±1ppm/Year Maximum (at 25°C)
Operating Temperature Range	-30°C to +75°C
Supply Voltage	3.0Vdc ±5%
Input Current	2.0mA Maximum
Output Voltage	0.8Vp-p Clipped Sinewave Minimum (External DC-Cut capacitor required, 1000pF recommended)
Load Drive Capability	10kOhms//10pF
Output Logic Type	Clipped Sinewave
Phase Noise	All Values are Typical -80dBc/Hz at 10Hz Offset -115dBc/Hz at 100Hz Offset -135dBc/Hz at 1kHz Offset -138dBc/Hz at 10kHz Offset
RMS Phase Jitter	0.7pSec Typical, 1pSec Maximum (Fj = 12kHz to 20MHz (Random))
Start Up Time	2mSec Maximum
Storage Temperature Range	-40°C to +85°C

## ENVIRONMENTAL & MECHANICAL SPECIFICATIONS

ESD Susceptibility	MIL-STD-883, Method 3015, Class 1, HBM: 1500V
Fine Leak Test	MIL-STD-883, Method 1014, Condition A
Flammability	UL94-V0
Gross Leak Test	MIL-STD-883, Method 1014, Condition C
Mechanical Shock	MIL-STD-883, Method 2002, Condition B
Moisture Resistance	MIL-STD-883, Method 1004
Moisture Sensitivity	J-STD-020, MSL 1
Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition K
Resistance to Solvents	MIL-STD-202, Method 215
Solderability	MIL-STD-883, Method 2003
Temperature Cycling	MIL-STD-883, Method 1010, Condition B
Vibration	MIL-STD-883, Method 2007, Condition A

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### MECHANICAL DIMENSIONS (all dimensions in millimeters)

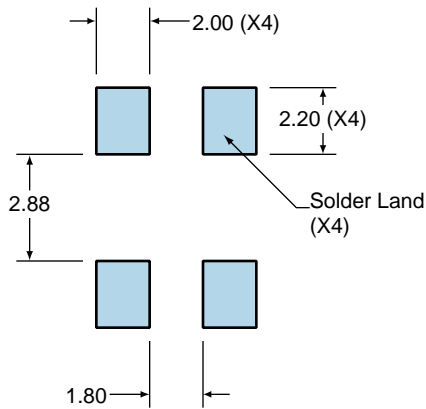


PIN	CONNECTION
1	Do Not Connect
2	Case/Ground
3	Output
4	Supply Voltage

LINE	MARKING
1	<b>E19.200</b> E=Ecliptek Designator
2	<b>XXXXX</b> XXXXX=Ecliptek Manufacturing Identifier

### Suggested Solder Pad Layout

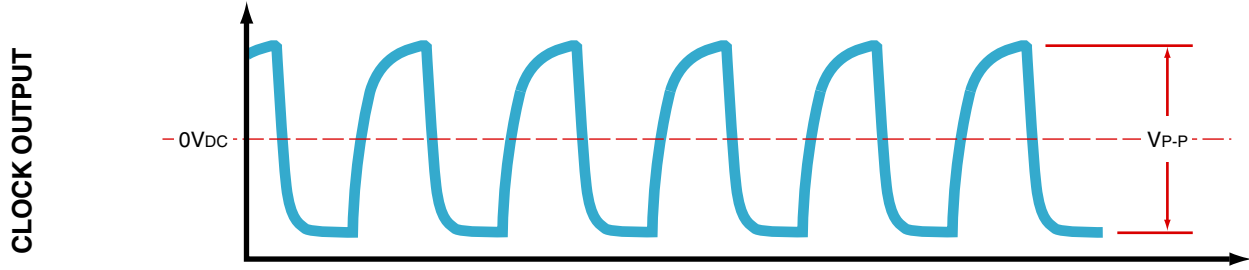
All Dimensions in Millimeters



All Tolerances are ±0.1

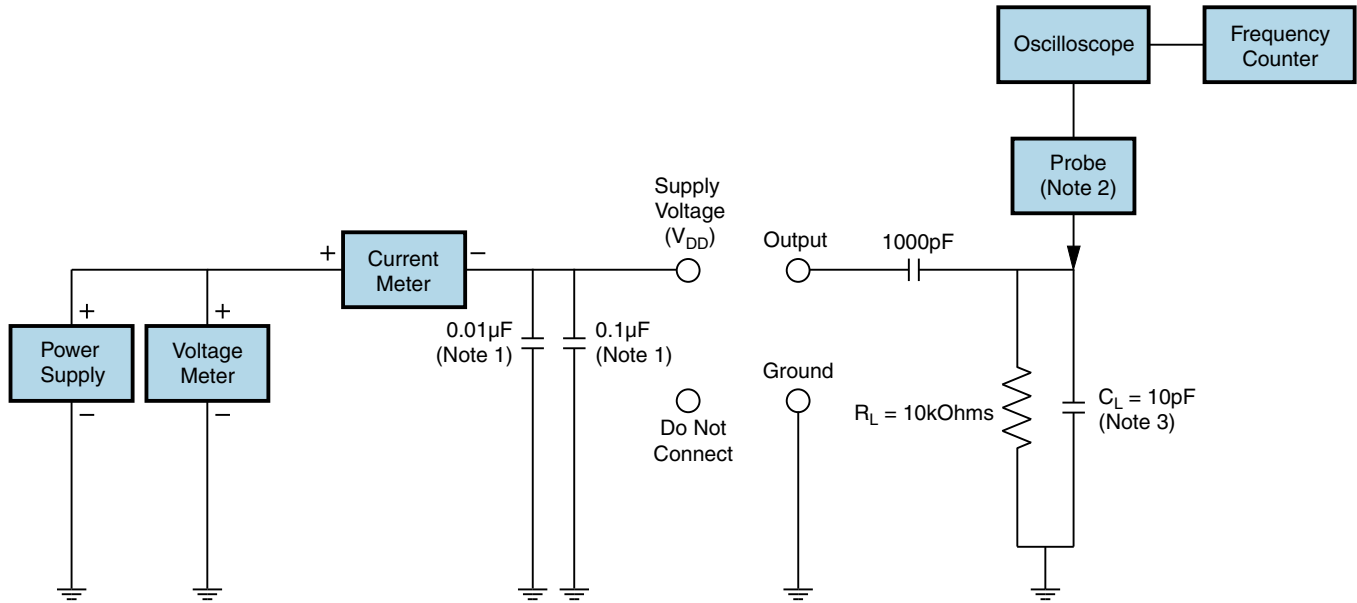
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## OUTPUT WAVEFORM



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## Test Circuit for Clipped Sinewave Output



Note 1: An external  $0.01\mu\text{F}$  bypass capacitor in parallel with a  $0.1\mu\text{F}$  high frequency ceramic bypass capacitor close (less than 2mm) to the package ground and supply voltage pin is required.

Note 2: A low input capacitance ( $<12\text{pF}$ ), 10X attenuation factor, high impedance ( $>10\text{Mohms}$ ), and high bandwidth ( $>300\text{MHz}$ ) passive probe is recommended.

Note 3: Capacitance value  $C_L$  includes sum of all probe and fixture capacitance.