

EH3920TS-14.31818M TR

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

REGULATORY COMPLIANCE (Data Sheet downloaded on Apr 29, 2018)


[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

Quartz Crystal Clock Oscillators XO (SPXO) LVCMOS (CMOS) 1.8Vdc 4 Pad 3.2mm x 5.0mm Ceramic Surface Mount (SMD) 14.31818MHz ± 20 ppm 0°C to +70°C

ELECTRICAL SPECIFICATIONS

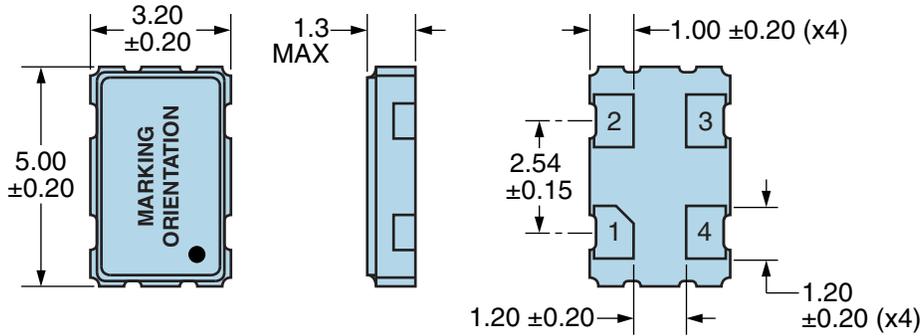
| | |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nominal Frequency | 14.31818MHz |
| Frequency Tolerance/Stability | ± 20 ppm Maximum (Inclusive of all conditions: Calibration Tolerance at 25°C, Frequency Stability over the Operating Temperature Range, Supply Voltage Change, Output Load Change, First Year Aging at 25°, 260°C Reflow, Shock, and Vibration) |
| Aging at 25°C | ± 5 ppm/Year Maximum |
| Operating Temperature Range | 0°C to +70°C |
| Supply Voltage | 1.8Vdc $\pm 5\%$ |
| Input Current | 3.5mA Maximum (No Load) |
| Output Voltage Logic High (Voh) | 90% of Vdd Minimum (IOH = -8mA) |
| Output Voltage Logic Low (Vol) | 10% of Vdd Maximum (IOL = +8mA) |
| Rise/Fall Time | 6nSec Maximum (Measured at 20% to 80% of waveform) |
| Duty Cycle | 50 ± 10 (%) (Measured at 50% of waveform) |
| Load Drive Capability | 15pF Maximum |
| Output Logic Type | CMOS |
| Pin 1 Connection | Tri-State (High Impedance) |
| Tri-State Input Voltage (Vih and Vil) | 90% of Vdd Minimum or No Connect to Enable Output, 10% of Vdd Maximum to Disable Output (High Impedance) |
| Standby Current | 10 μ A Maximum (Pin 1 = Ground) |
| RMS Phase Jitter | 20pSec Typical, 30pSec Maximum (Fj = 12kHz to 20MHz) |
| Period Jitter (RMS) | 15pSec Typical |
| Period Jitter (pk-pk) | 100pSec Typical, 200pSec Maximum |
| Start Up Time | 10mSec Maximum |
| Storage Temperature Range | -55°C to +125°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 |

EH3920TS-14.31818M TR [Click part number to visit Part Number Details page](#)

MECHANICAL DIMENSIONS (all dimensions in millimeters)

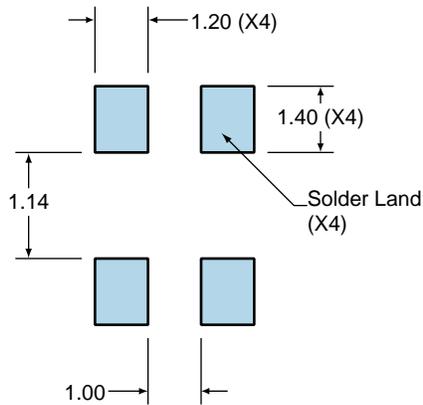


| PIN | CONNECTION |
|-----|----------------|
| 1 | Tri-State |
| 2 | Case Ground |
| 3 | Output |
| 4 | Supply Voltage |

| LINE | MARKING |
|------|---------------------------------------------------------|
| 1 | E14.318 E=Ecliptek Designator |
| 2 | XXXXX XXXXX=Ecliptek Manufacturing Identifier |

Suggested Solder Pad Layout

All Dimensions in Millimeters



All Tolerances are ± 0.1

EH3920TS-14.31818M TR [Click part number to visit Part Number Details page](#)

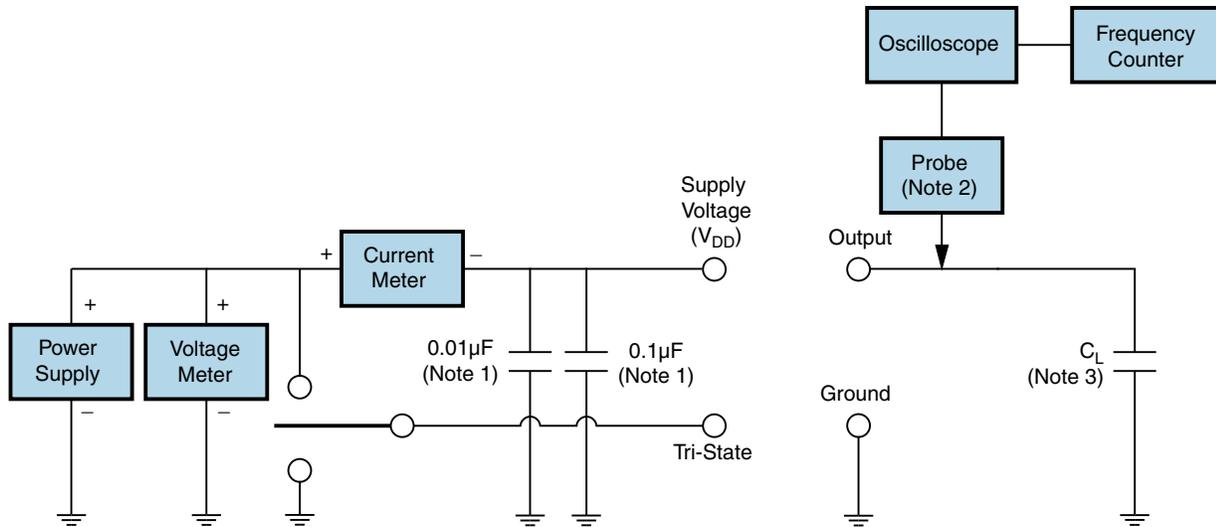
OUTPUT WAVEFORM & TIMING DIAGRAM



EH3920TS-14.31818M TR

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

Test Circuit for CMOS Output



Note 1: An external $0.01\mu\text{F}$ ceramic 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 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.

EH3920TS-14.31818M TR

Tape & Reel Dimensions

Quantity Per Reel: 1,000 units

All Dimensions in Millimeters

Compliant to EIA-481

