

EH3600TTS-48.000M TR [↗](#)

Lead Free  COMPLIANT	EU RoHS 2011/65 + 2015/863 COMPLIANT	ChinaRoHS  COMPLIANT	REACH SVHC 163 Jun 15, 2015 COMPLIANT
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ITEM DESCRIPTION

Quartz Crystal Clock Oscillators XO (SPXO) LVCMOS (CMOS) 3.3Vdc 4 Pad 3.2mm x 5.0mm Ceramic Surface Mount (SMD) 48.000MHz ± 100 ppm 0°C to +70°C

ELECTRICAL SPECIFICATIONS

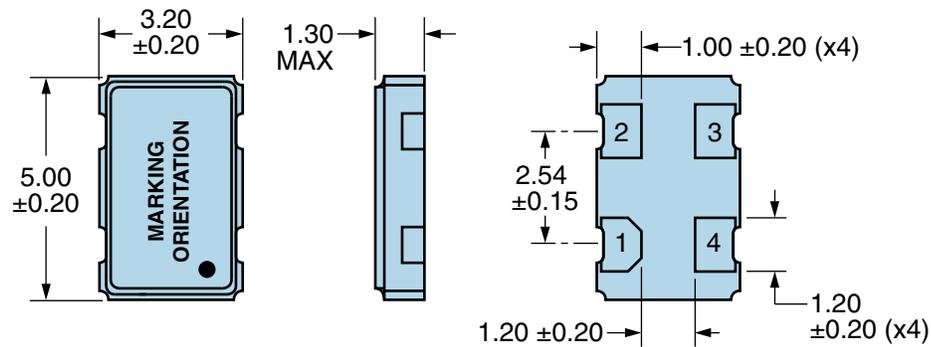
Nominal Frequency	48.000MHz
Frequency Tolerance/Stability	± 100 ppm Maximum (Inclusive of all conditions: Calibration Tolerance at 25°C, Frequency Stability over the Operating Temperature Range, Supply Voltage Change, Output Load Change, First Year Aging at 25°C, Shock, and Vibration)
Aging at 25°C	± 5 ppm/year Maximum
Operating Temperature Range	0°C to +70°C
Supply Voltage	3.3Vdc $\pm 10\%$
Input Current	35mA Maximum (No Load)
Output Voltage Logic High (Voh)	2.7Vdc Minimum (IOH = -8mA)
Output Voltage Logic Low (Vol)	0.5Vdc Maximum (IOL = +8mA)
Rise/Fall Time	6nSec Maximum (Measured at 20% to 80% of waveform)
Duty Cycle	50 ± 5 (%) (Measured at 50% of waveform)
Load Drive Capability	30pF Maximum
Output Logic Type	CMOS
Pin 1 Connection	Tri-State (High Impedance)
Tri-State Input Voltage (Vih and Vil)	70% of Vdd Minimum to enable output, 20% of Vdd Maximum to disable output, No Connect to enable output.
Absolute Clock Jitter	± 250 pSec Maximum, ± 100 pSec Typical
One Sigma Clock Period Jitter	± 50 pSec Maximum, ± 40 pSec Typical
Start Up Time	10mSec Maximum
Storage Temperature Range	-55°C to +125°C

ENVIRONMENTAL & MECHANICAL SPECIFICATIONS

Fine Leak Test	MIL-STD-883, Method 1014, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C
Mechanical Shock	MIL-STD-202, Method 213, Condition C
Resistance to Soldering Heat	MIL-STD-202, Method 210
Resistance to Solvents	MIL-STD-202, Method 215
Solderability	MIL-STD-883, Method 2003
Temperature Cycling	MIL-STD-883, Method 1010
Vibration	MIL-STD-883, Method 2007, Condition A

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MECHANICAL DIMENSIONS (all dimensions in millimeters)



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

LINE	MARKING
1	E48.000 <i>E=Ecliptek Designator</i>
2	XXXXX <i>XXXXX=Ecliptek Manufacturing Identifier</i>

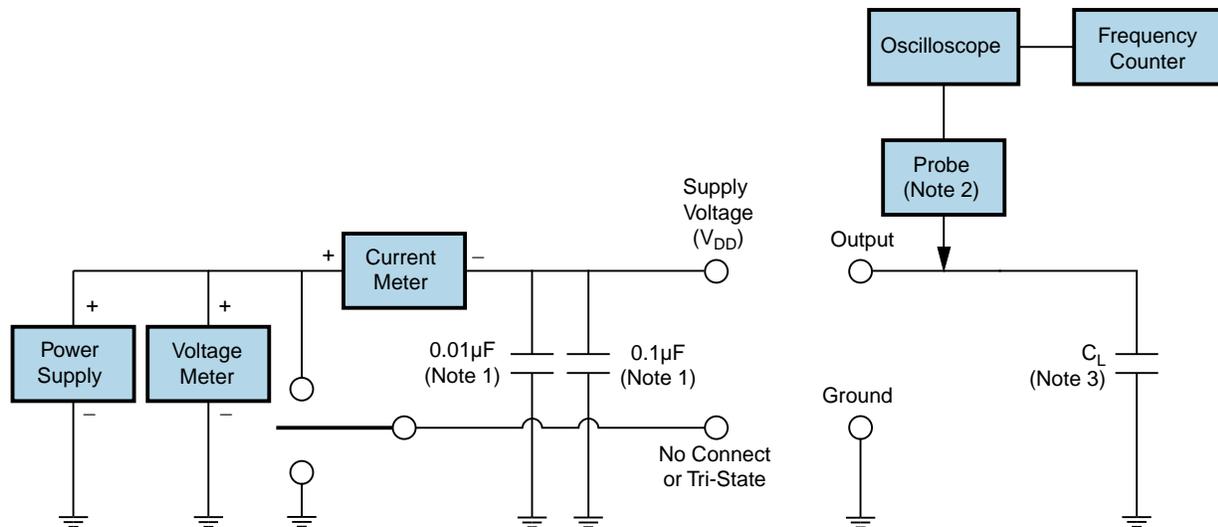
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OUTPUT WAVEFORM & TIMING DIAGRAM



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Test Circuit for CMOS Output



Note 1: An external $0.1\mu\text{F}$ low frequency tantalum bypass capacitor in parallel with a $0.01\mu\text{F}$ high frequency ceramic bypass capacitor close to the package ground and V_{DD} 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.

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Tape & Reel Dimensions

Quantity Per Reel: 1,000 units
 All Dimensions in Millimeters
 Compliant to EIA-481

