

EC1100HSETTTS-1.8432M
[Click part number to visit Part Number Details page](#)
REGULATORY COMPLIANCE (Data Sheet downloaded on May 2, 2016)**ITEM DESCRIPTION**1.8432MHz ± 100 ppm -40°C to +85°C**ELECTRICAL SPECIFICATIONS**

Nominal Frequency	1.8432MHz
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	-40°C to +85°C
Supply Voltage	5.0Vdc $\pm 10\%$
Input Current	45mA Maximum
Output Voltage Logic High (Voh)	2.4Vdc Minimum with TTL Load, Vdd-0.5Vdc Minimum with HCMOS Load
Output Voltage Logic Low (Vol)	0.4Vdc Maximum with TTL Load, 0.5Vdc Maximum with HCMOS Load
Rise/Fall Time	6nSec Maximum (Measured at 0.4Vdc to 2.4Vdc with TTL Load; Measured at 20% to 80% of waveform with HCMOS Load)
Duty Cycle	50 ± 5 (%) (Measured at 1.4Vdc)
Load Drive Capability	10TTL Load or 50pF HCMOS Load Maximum
Output Logic Type	CMOS
Pin 1 Connection	Tri-State (High Impedance)
Tri-State Input Voltage (Vih and Vil)	+2.2Vdc Minimum to enable output, +0.8Vdc to disable output (High Impedance), No connect to enable output.
Absolute Clock Jitter	± 100 pSec Maximum
One Sigma Clock Period Jitter	± 25 pSec Maximum
Start Up Time	10mSec Maximum
Storage Temperature Range	-55°C to +125°C

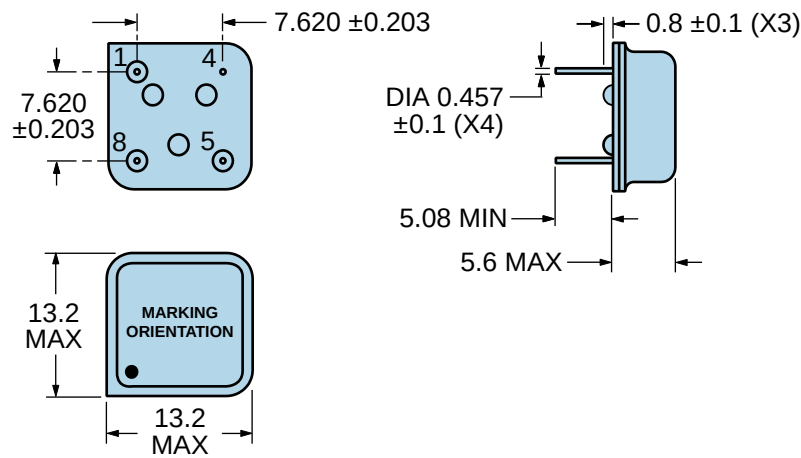
ENVIRONMENTAL & MECHANICAL SPECIFICATIONS

Fine Leak Test	MIL-STD-883, Method 1014, Condition A
Gross Leak Test	MIL-STD-883, Method 1014, Condition C
Lead Integrity	MIL-STD-883, Method 2004
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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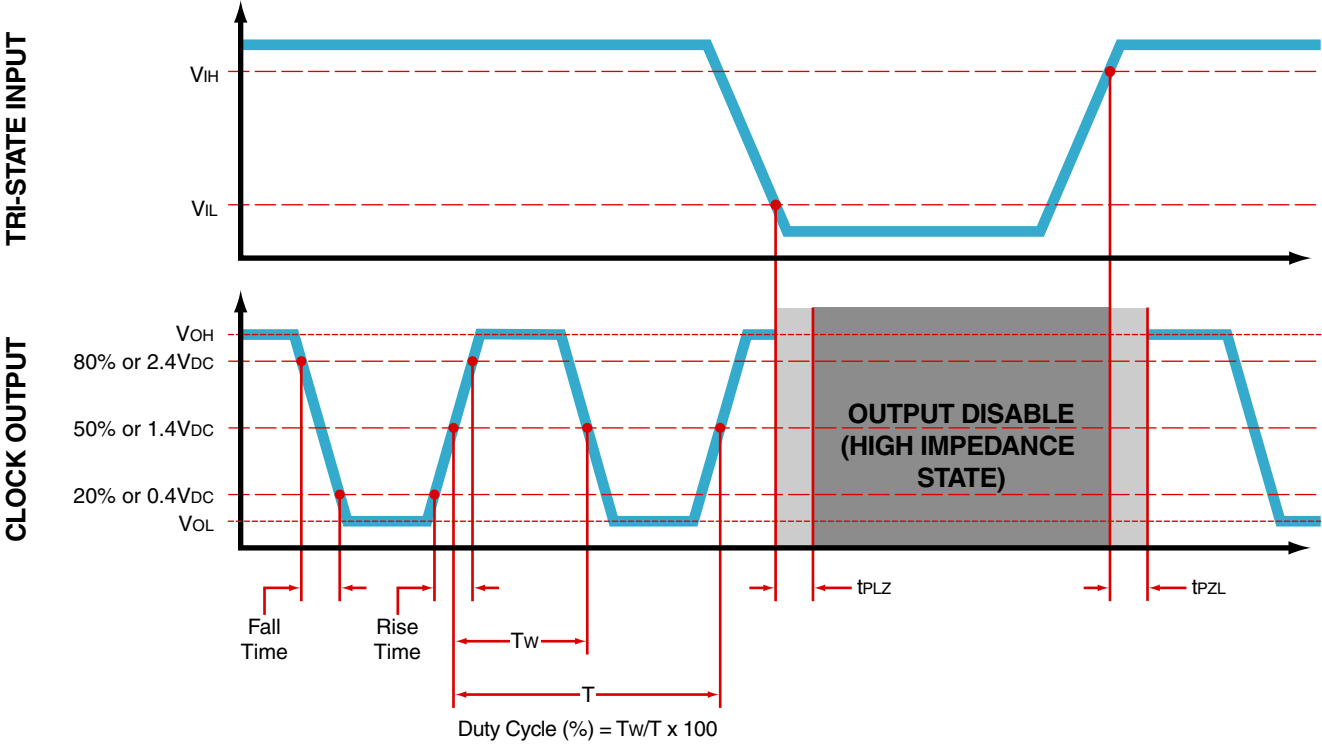
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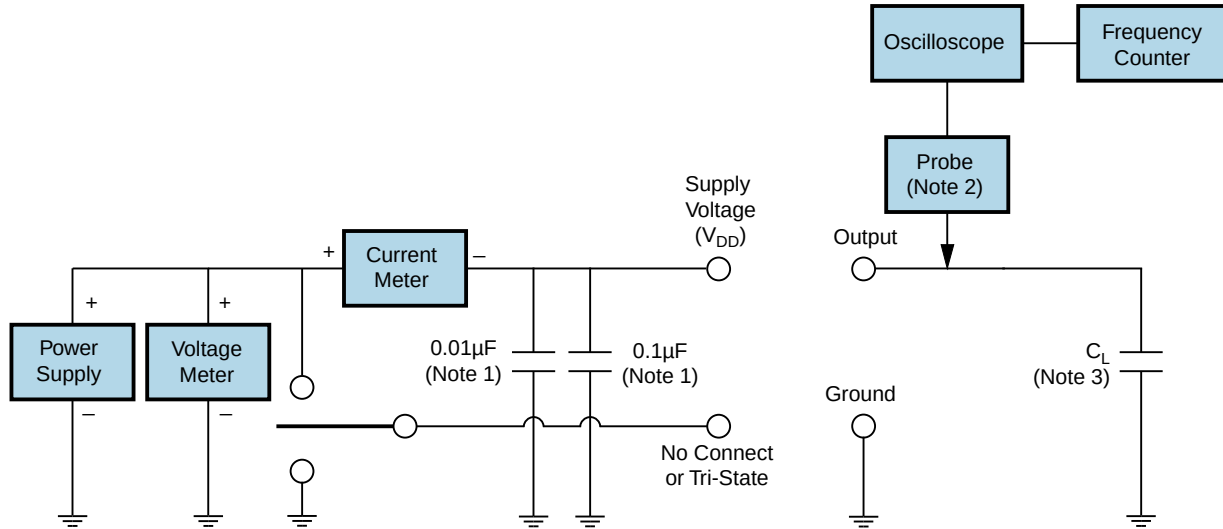
MECHANICAL DIMENSIONS (all dimensions in millimeters)



LINE	MARKING
1	ECLIPTEK
2	EC11TS EC11=Product Series
3	1.8432M
4	XXYYZZ XX=Ecliptek Manufacturing Code Y=Last Digit of Year ZZ=Week of Year

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.

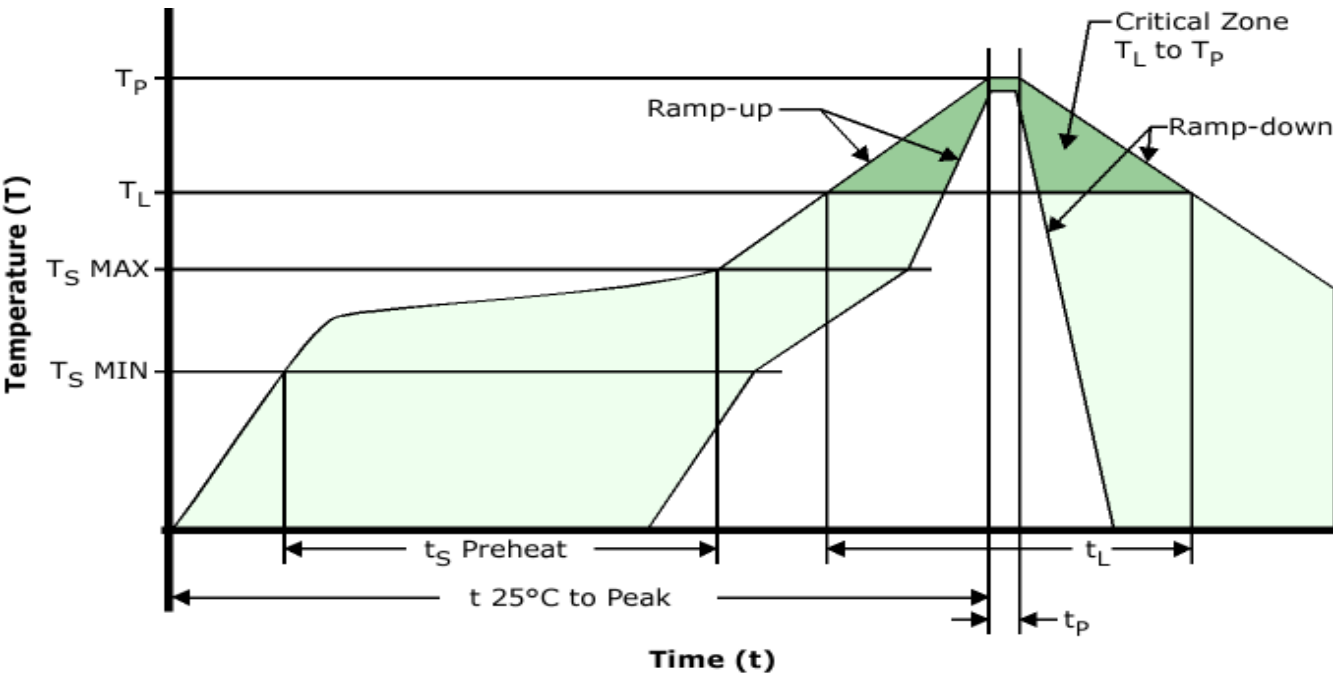
Note 2: A low capacitance ($<12\text{pF}$), 10X attenuation factor, high impedance ($>10\text{Mohms}$), and high bandwidth ($>300\text{MHz}$) passive probe is recommended.

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

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Recommended Solder Reflow Methods



High Temperature Solder Bath (Wave Solder)

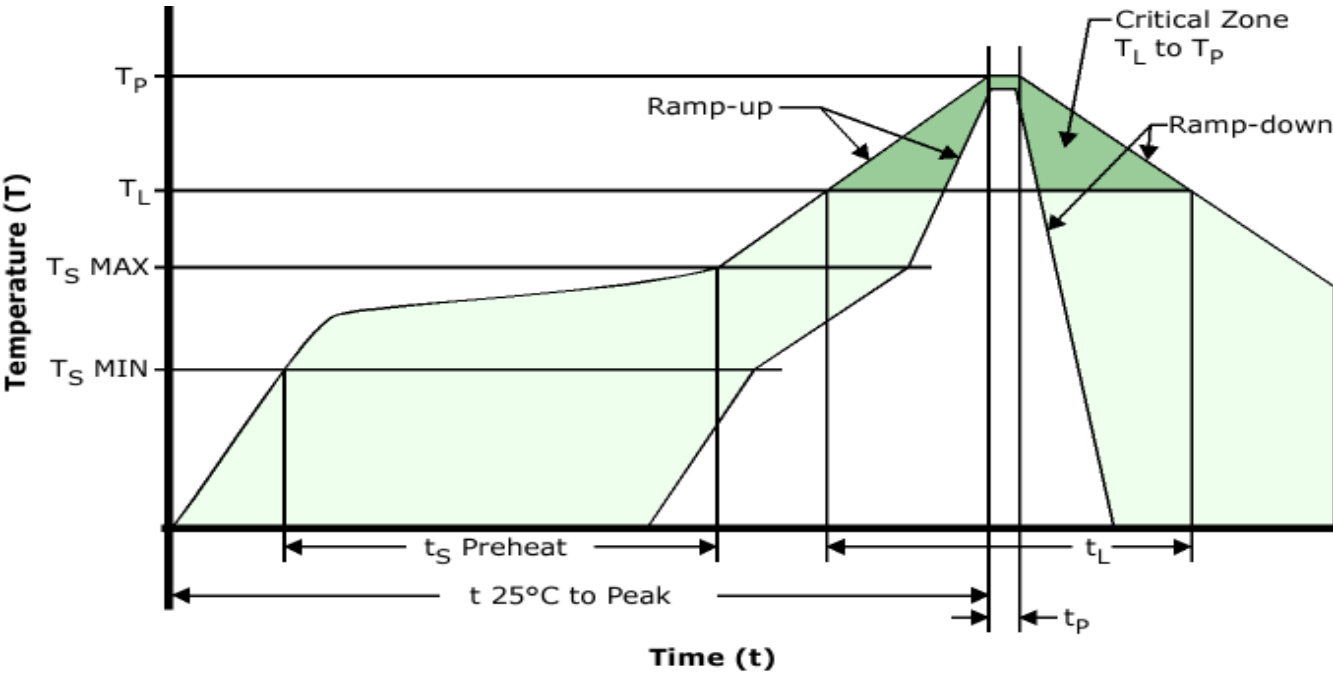
Ts MAX to Tl (Ramp-up Rate)	3°C/Second Maximum
Preheat	
- Temperature Minimum (Ts MIN)	150°C
- Temperature Typical (Ts TYP)	175°C
- Temperature Maximum (Ts MAX)	200°C
- Time (ts MIN)	60 - 180 Seconds
Ramp-up Rate (Tl to Tp)	3°C/Second Maximum
Time Maintained Above:	
- Temperature (Tl)	217°C
- Time (tL)	60 - 150 Seconds
Peak Temperature (Tp)	260°C Maximum for 10 Seconds Maximum
Target Peak Temperature (Tp Target)	250°C +0/-5°C
Time within 5°C of actual peak (tp)	20 - 40 Seconds
Ramp-down Rate	6°C/Second Maximum
Time 25°C to Peak Temperature (t)	8 Minutes Maximum
Moisture Sensitivity Level	Level 1

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Recommended Solder Reflow Methods



Low Temperature Infrared/Convection 185°C

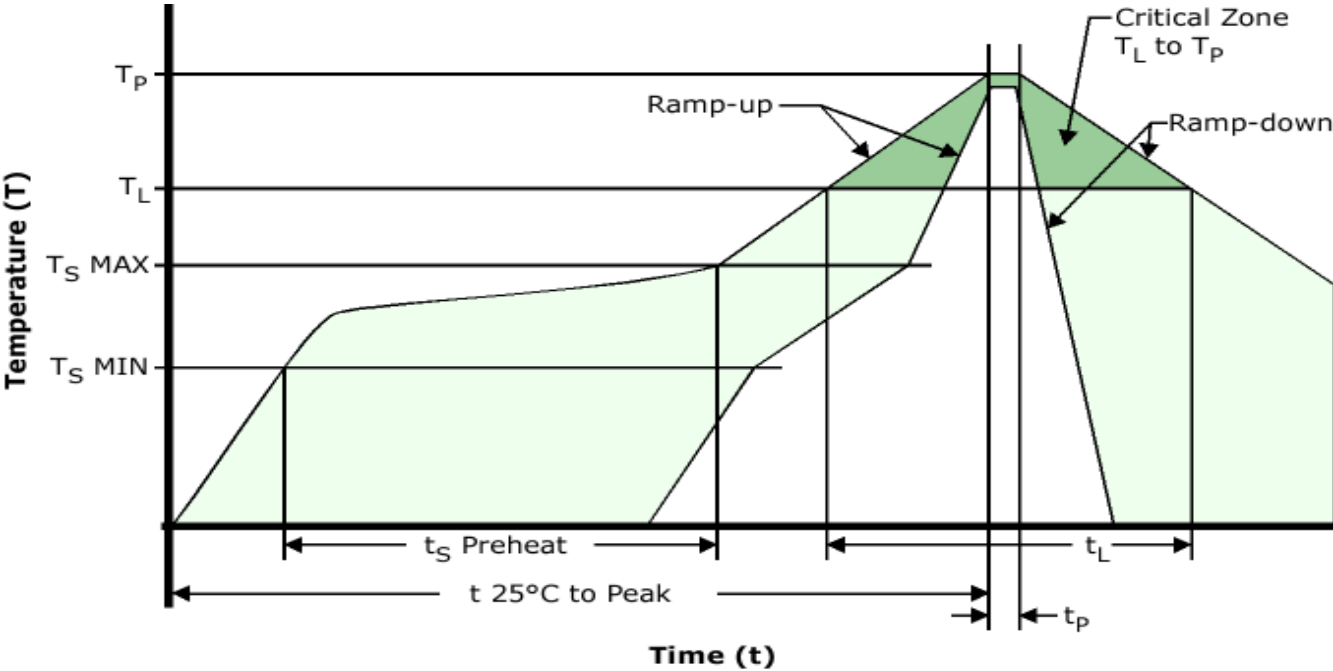
Ts MAX to T _L (Ramp-up Rate)	5°C/Second Maximum
Preheat	
- Temperature Minimum (T _s MIN)	N/A
- Temperature Typical (T _s TYP)	150°C
- Temperature Maximum (T _s MAX)	N/A
- Time (t _s MIN)	60 - 120 Seconds
Ramp-up Rate (T _L to T _P)	5°C/Second Maximum
Time Maintained Above:	
- Temperature (T _L)	150°C
- Time (t _L)	200 Seconds Maximum
Peak Temperature (T _P)	185°C Maximum
Target Peak Temperature (T _P Target)	185°C Maximum 2 Times
Time within 5°C of actual peak (t _P)	10 Seconds Maximum 2 Times
Ramp-down Rate	5°C/Second Maximum
Time 25°C to Peak Temperature (t)	N/A
Moisture Sensitivity Level	Level 1

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Recommended Solder Reflow Methods



Low Temperature Solder Bath (Wave Solder)

TS MAX to TL (Ramp-up Rate)	5°C/Second Maximum
Preheat	
- Temperature Minimum (TS MIN)	N/A
- Temperature Typical (TS TYP)	150°C
- Temperature Maximum (TS MAX)	N/A
- Time (ts MIN)	30 - 60 Seconds
Ramp-up Rate (TL to TP)	5°C/Second Maximum
Time Maintained Above:	
- Temperature (TL)	150°C
- Time (tL)	200 Seconds Maximum
Peak Temperature (TP)	245°C Maximum
Target Peak Temperature (TP Target)	245°C Maximum 1 Time / 235°C Maximum 2 Times
Time within 5°C of actual peak (tp)	5 Seconds Maximum 1 Time / 15 Seconds Maximum 2 Times
Ramp-down Rate	5°C/Second Maximum
Time 25°C to Peak Temperature (t)	N/A
Moisture Sensitivity Level	Level 1

Low Temperature Manual Soldering

185°C Maximum for 10 Seconds Maximum, 2 times Maximum.

High Temperature Manual Soldering

260°C Maximum for 5 Seconds Maximum, 2 times Maximum.