

E1UAAS-12.000M

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

Quartz Crystal Resonator HC49/US Short Thru-Hole 2.5mm Height Metal Resistance Weld Seal 12.000MHz ± 50 ppm at 25°C, ± 100 ppm over 0°C to +70°C Series Resonant

ELECTRICAL SPECIFICATIONS

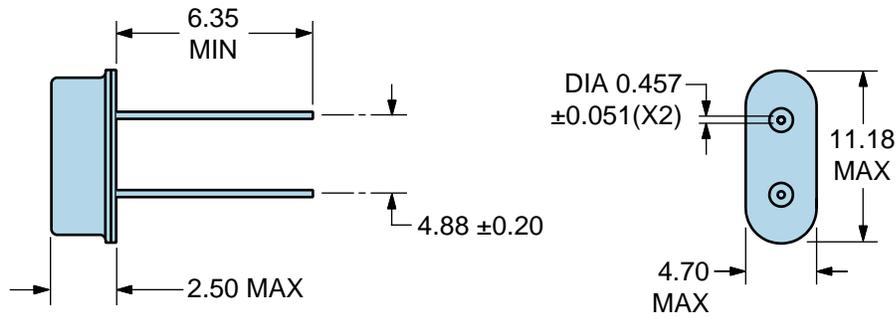
Nominal Frequency	12.000MHz
Frequency Tolerance/Stability	± 50 ppm at 25°C, ± 100 ppm over 0°C to +70°C
Aging at 25°C	± 5 ppm/year Maximum
Load Capacitance	Series Resonant
Shunt Capacitance	7pF Maximum
Equivalent Series Resistance	70 Ohms Maximum
Mode of Operation	AT-Cut Fundamental
Drive Level	1mWatt Maximum
Storage Temperature Range	-40°C to +125°C
Insulation Resistance	500 Megaohms Minimum (Measured at 100Vdc)

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
Lead Integrity	MIL-STD-883, Method 2004
Mechanical Shock	MIL-STD-202, Method 213, Condition C
Moisture Resistance	MIL-STD-883, Method 1004
Moisture Sensitivity	J-STD-020, MSL1
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

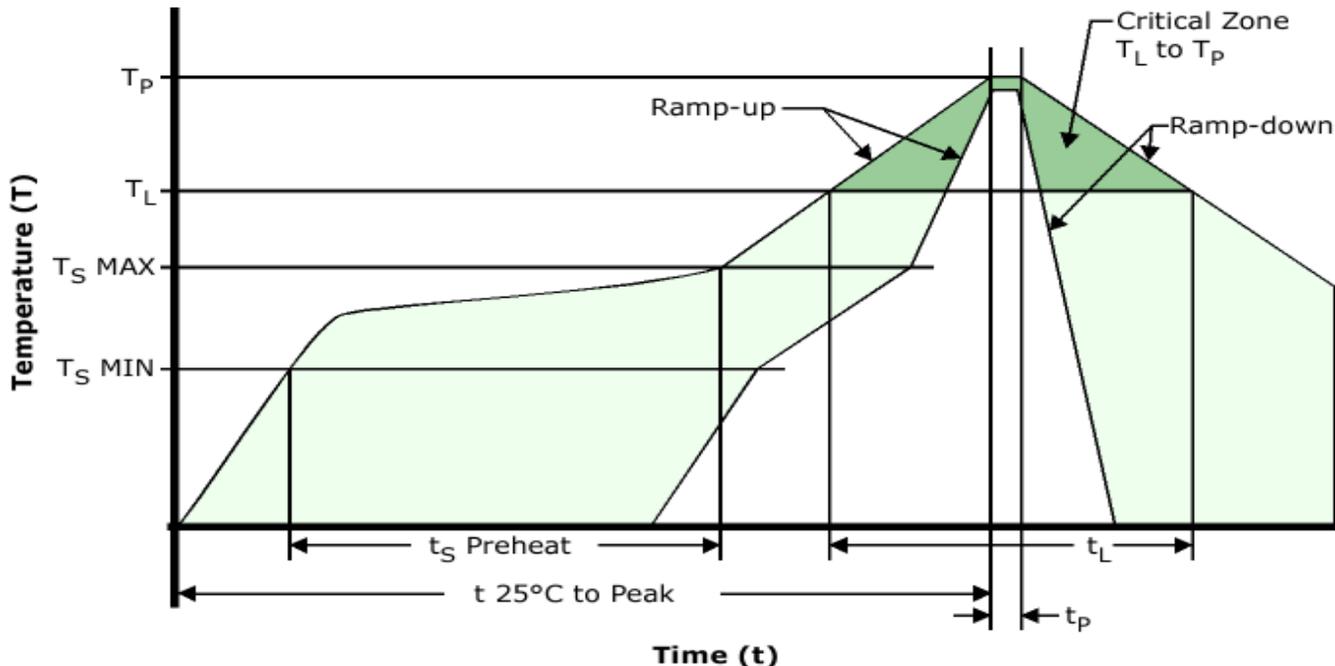
E1UAAS-12.000M**MECHANICAL DIMENSIONS (all dimensions in millimeters)**

LINE	MARKING
1	E12.000M E=Ecliptek Designator



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Recommended Solder Reflow Methods

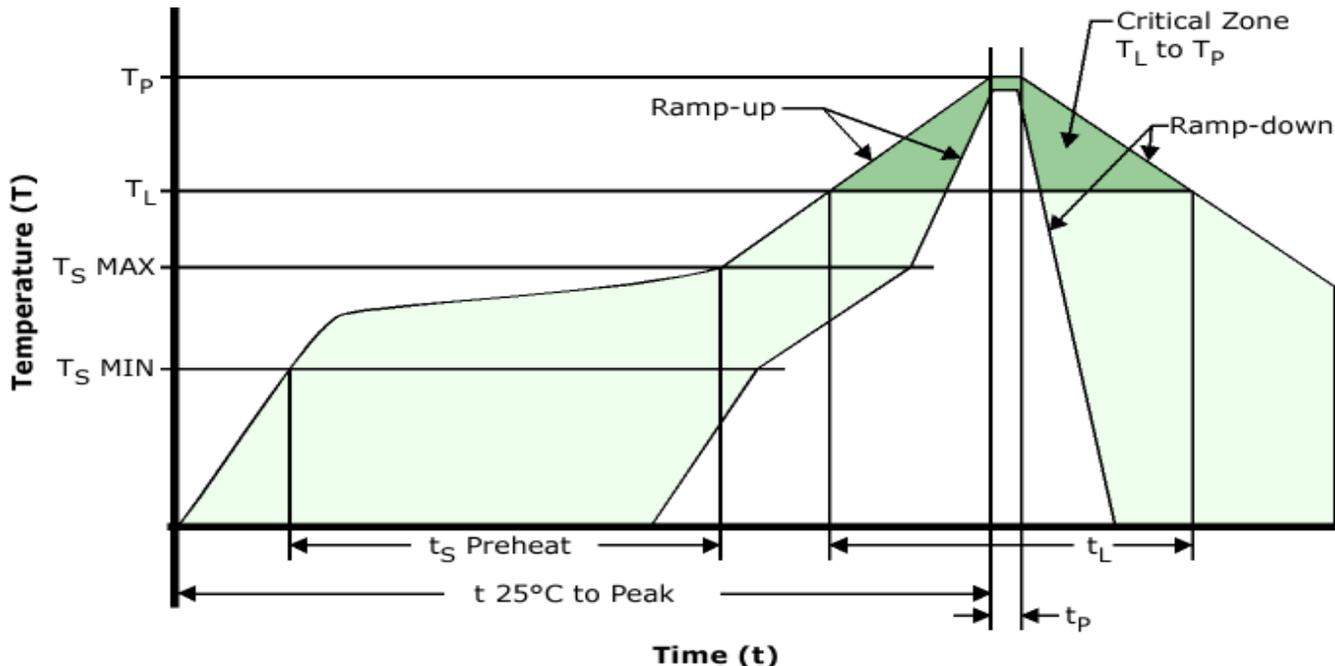


High Temperature Solder Bath (Wave Solder)

T_S MAX to T_L (Ramp-up Rate)	3°C/Second Maximum
Preheat	
- Temperature Minimum (T_S MIN)	150°C
- Temperature Typical (T_S TYP)	175°C
- Temperature Maximum (T_S MAX)	200°C
- Time (t_s MIN)	60 - 180 Seconds
Ramp-up Rate (T_L to T_P)	3°C/Second Maximum
Time Maintained Above:	
- Temperature (T_L)	217°C
- Time (t_L)	60 - 150 Seconds
Peak Temperature (T_P)	260°C Maximum for 10 Seconds Maximum
Target Peak Temperature (T_P Target)	250°C +0/-5°C
Time within 5°C of actual peak (t_p)	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
Additional Notes	Temperatures shown are applied to back of PCB board and device leads only.

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Recommended Solder Reflow Methods



Low Temperature Solder Bath (Wave Solder)

T_s 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)	30 - 60 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)	245°C Maximum
Target Peak Temperature (T_P Target)	245°C Maximum 1 Time / 235°C Maximum 2 Times
Time within 5°C of actual peak (t_p)	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
Additional Notes	Temperatures shown are applied to back of PCB board and device leads only.

Low Temperature Manual Soldering

185°C Maximum for 10 Seconds Maximum, 2 times Maximum. (Temperatures shown are applied to back of PCB board and device leads only.)

High Temperature Manual Soldering

260°C Maximum for 5 Seconds Maximum, 2 times Maximum. (Temperatures shown are applied to back of PCB board and device leads only.)