

E1UGB18-48.000M TR



ITEM DESCRIPTION

Quartz Crystal Resonator HC49/US Short Thru-Hole 2.5mm Height Metal Resistance Weld Seal 48.000MHz ± 15 ppm at 25°C, ± 30 ppm over 0°C to +70°C 18pF Parallel Resonant

ELECTRICAL SPECIFICATIONS

Nominal Frequency	48.000MHz
Frequency Tolerance/Stability	± 15 ppm at 25°C, ± 30 ppm over 0°C to +70°C
Aging at 25°C	± 5 ppm/year Maximum
Load Capacitance	18pF Parallel Resonant
Shunt Capacitance	7pF Maximum
Equivalent Series Resistance	100 Ohms Maximum
Mode of Operation	AT-Cut Third Overtone
Drive Level	1mWatt Maximum
Storage Temperature Range	-40°C to +125°C
Insulation Resistance	500 Megaohms Minimum (Measured at 100Vdc)

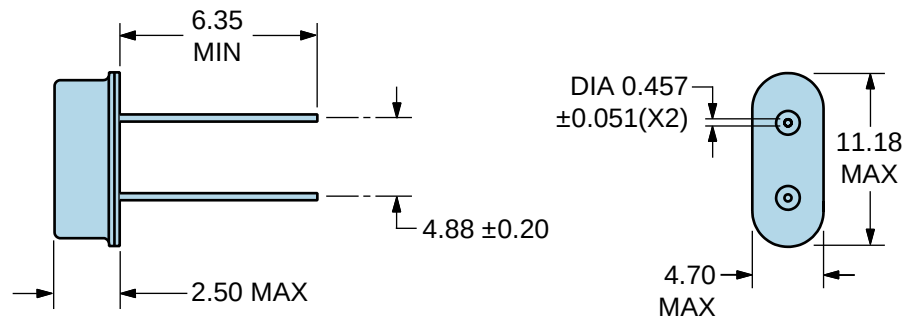
ENVIRONMENTAL & MECHANICAL SPECIFICATIONS

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

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MECHANICAL DIMENSIONS (all dimensions in millimeters)

LINE	MARKING
1	E48.000M <i>E=Ecliptek Designator</i>



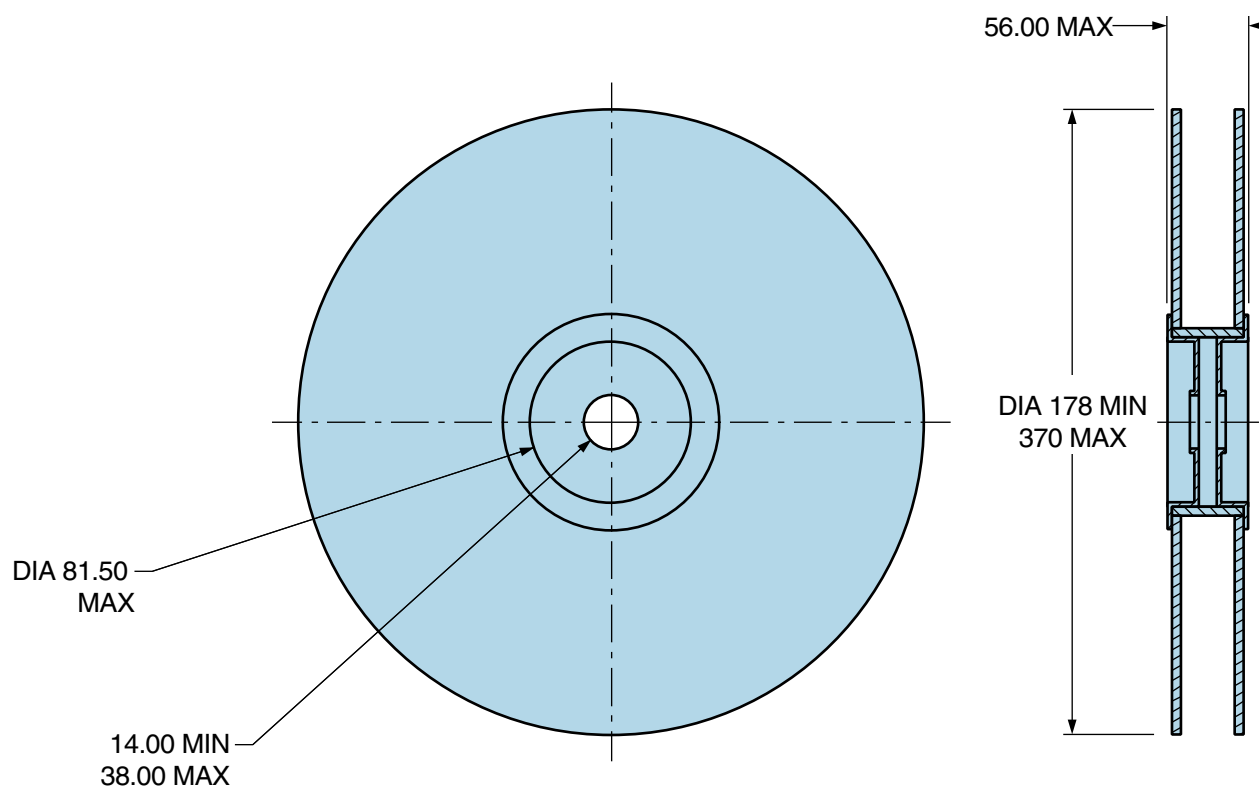
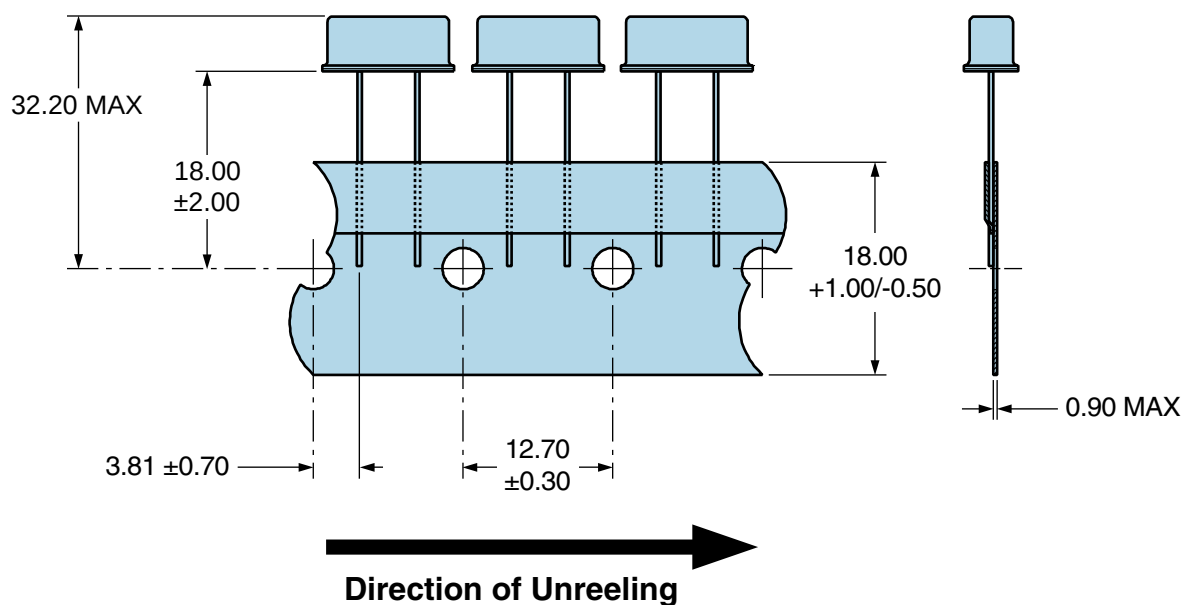
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Tape & Reel Dimensions

Quantity Per Reel: 1,000 units

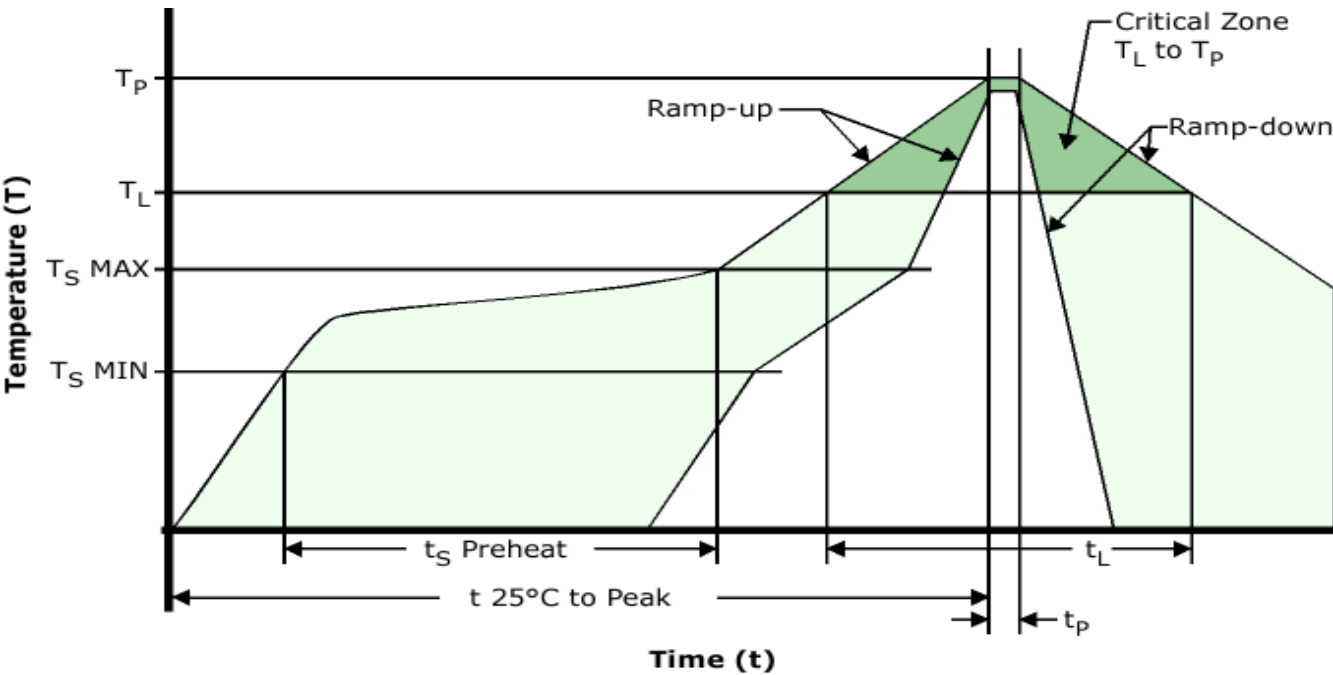
All Dimensions in Millimeters

Compliant to EIA-468



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Recommended Solder Reflow Methods

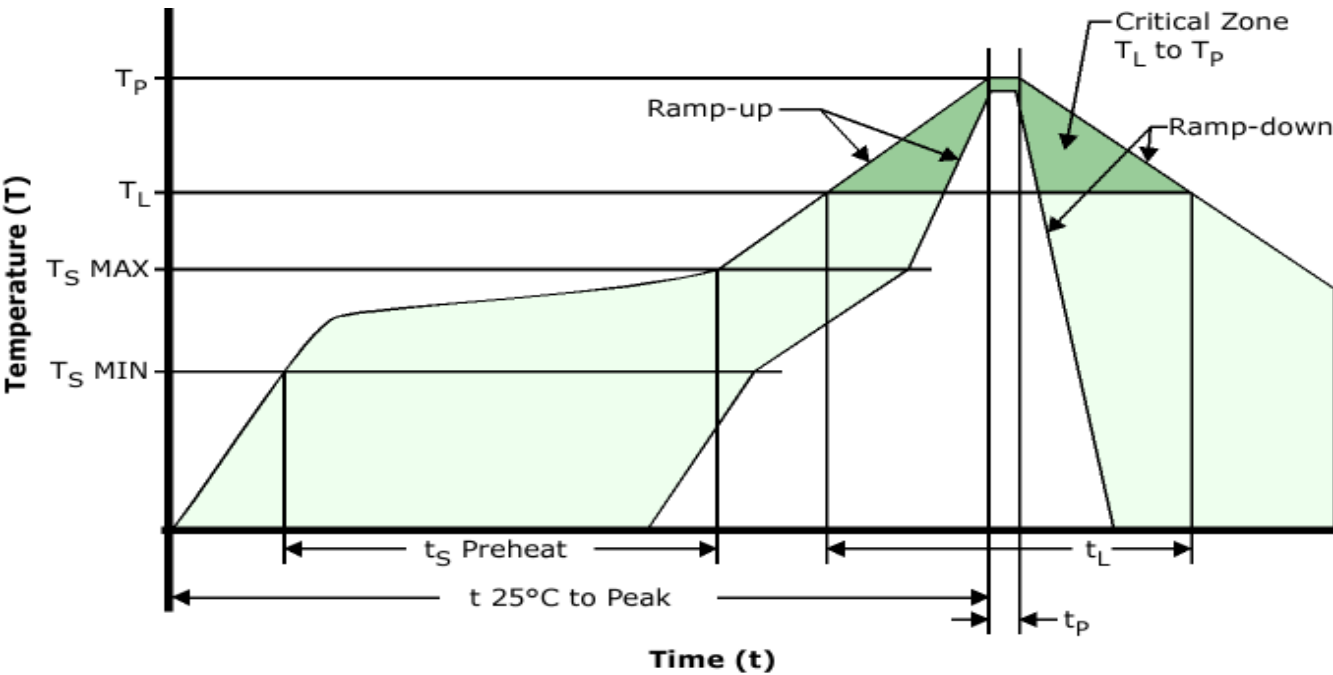


High Temperature Solder Bath (Wave Solder)

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)

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
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.)