ECJT-10-54.000M TR

EC J T -10 -54.000M TR

- **Series** — Resistance Welded HC-49/U Crystal
- **Frequency Tolerance/Stability** — ±15ppm at 25°C, ±20ppm over 0°C to +70°C
- **Mode of Operation** — AT-Cut Third Overtone
- **Load Capacitance** — 10pF Parallel Resonant
- **Nominal Frequency** — 54.000MHz
- **Packaging Options** — Tape & Reel

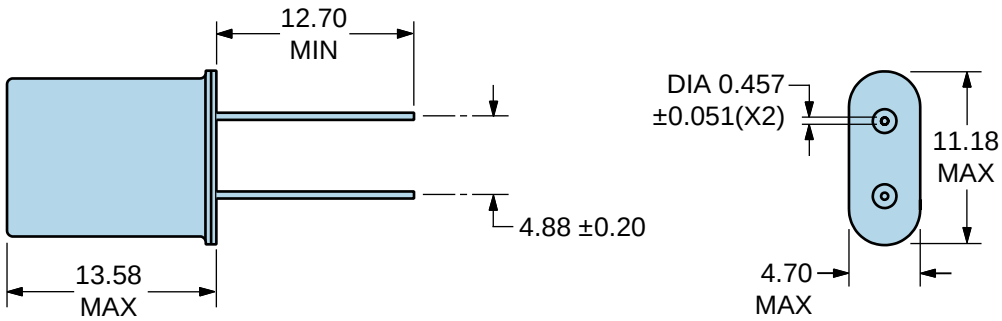
ELECTRICAL SPECIFICATIONS

Nominal Frequency	54.000MHz
Frequency Tolerance/Stability	±15ppm at 25°C, ±20ppm over 0°C to +70°C
Aging at 25°C	±5ppm/year Maximum
Load Capacitance	10pF Parallel Resonant
Shunt Capacitance (C0)	7pF Maximum
Equivalent Series Resistance	40 Ohms Maximum
Mode of Operation	AT-Cut Third Overtone
Drive Level	2mWatts Maximum
Storage Temperature Range	-40°C to +85°C
Insulation Resistance	500 Megaohms Minimum at 100Vdc

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

MECHANICAL DIMENSIONS (all dimensions in millimeters)



LINE	MARKING
1	**ECLIPTEK**
2	**E54.000M** *E=Ecliptek Designator or Blank (No Marking)*
3	**XX** *XX=Ecliptek Manufacturing Code*

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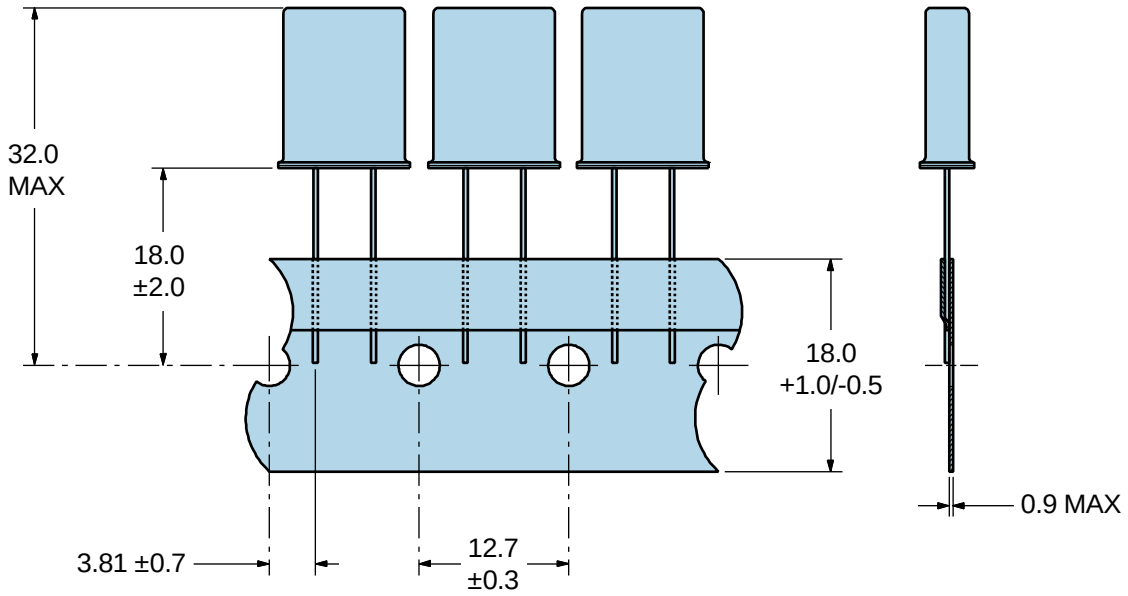
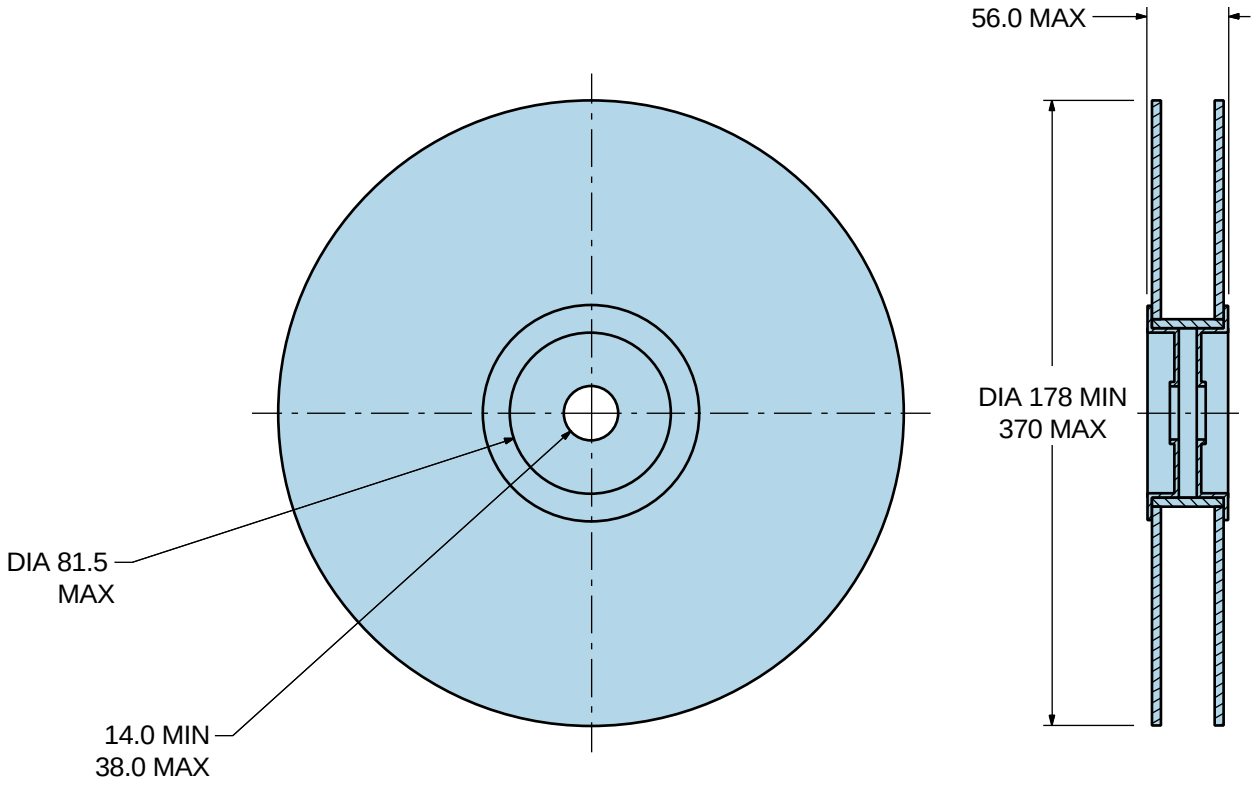
Tape & Reel Dimensions

Quantity Per Reel: 1,000 Pieces

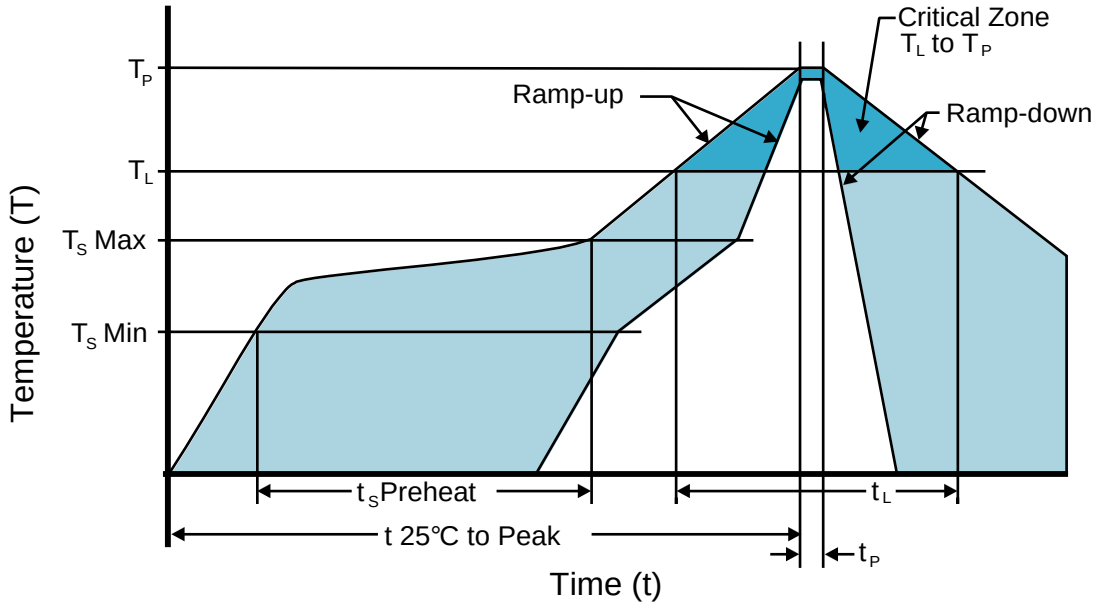


*Compliant to EIA 468B



ECJT-10-54.000M TR

Recommended Solder Reflow Methods

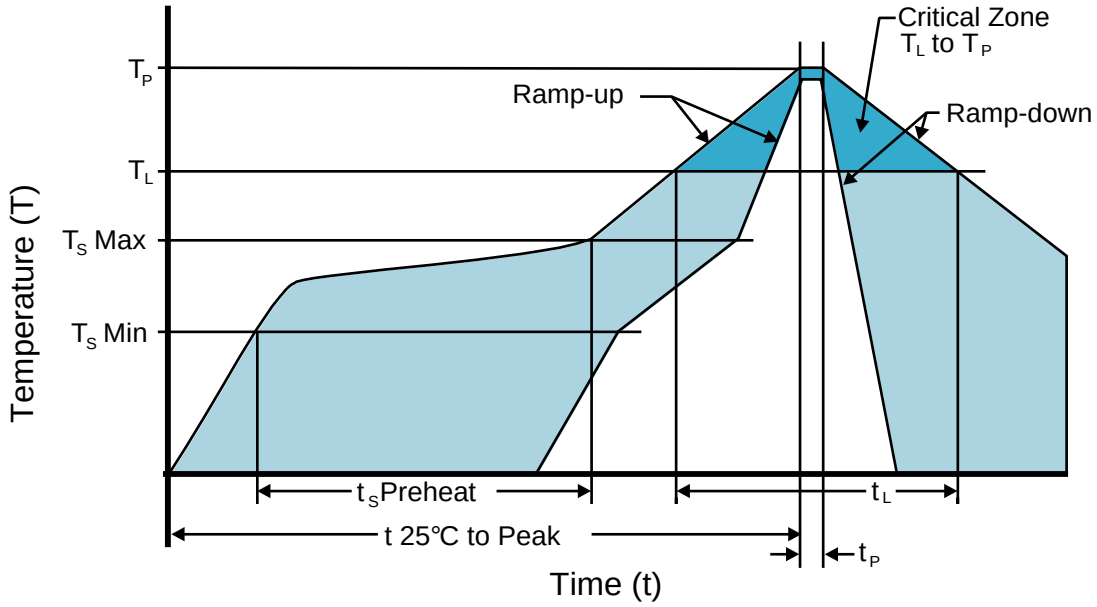


High Temperature Solder Bath (Wave Solder)

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

ECJT-10-54.000M TR

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

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.