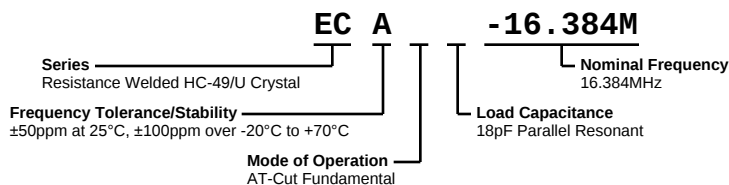


ECA-16.384M



ELECTRICAL SPECIFICATIONS

Nominal Frequency	16.384MHz
Frequency Tolerance/Stability	$\pm 50\text{ppm}$ at 25°C , $\pm 100\text{ppm}$ over -20°C to $+70^{\circ}\text{C}$
Aging at 25°C	$\pm 5\text{ppm/year}$ Maximum
Load Capacitance	18pF Parallel Resonant
Shunt Capacitance (C0)	7pF Maximum
Equivalent Series Resistance	25 Ohms Maximum
Mode of Operation	AT-Cut Fundamental
Drive Level	2mWatts Maximum
Storage Temperature Range	-40°C to $+85^{\circ}\text{C}$
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

ECA-16.384M

MECHANICAL DIMENSIONS (all dimensions in millimeters)



LINE	MARKING
1	ECLIPTEK
2	E16.384M <i>E=Ecliptek Designator or Blank (No Marking)</i>
3	XX <i>XX=Ecliptek Manufacturing Code</i>

Recommended Solder Reflow Methods



High Temperature Solder Bath (Wave Solder)

$T_S \text{ MAX}$ to T_L (Ramp-up Rate) 3°C/second Maximum

Preheat

- Temperature Minimum ($T_S \text{ MIN}$) 150°C
- Temperature Typical ($T_S \text{ TYP}$) 175°C
- Temperature Maximum ($T_S \text{ MAX}$) 200°C
- Time ($t_s \text{ MIN}$) 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 ($T_P \text{ Target}$) 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

Recommended Solder Reflow Methods



Low Temperature Solder Bath (Wave Solder)

$T_S \text{ MAX to } T_L$ (Ramp-up Rate) 5°C/second Maximum

Preheat

- Temperature Minimum ($T_S \text{ MIN}$) N/A
- Temperature Typical ($T_S \text{ TYP}$) 150°C
- Temperature Maximum ($T_S \text{ MAX}$) N/A
- Time ($t_s \text{ MIN}$) 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 ($T_P \text{ Target}$) 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.