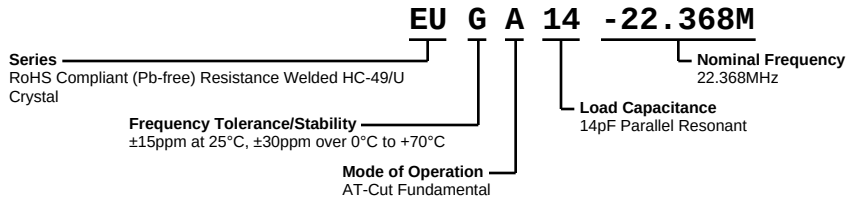


# EUGA14-22.368M



## ELECTRICAL SPECIFICATIONS

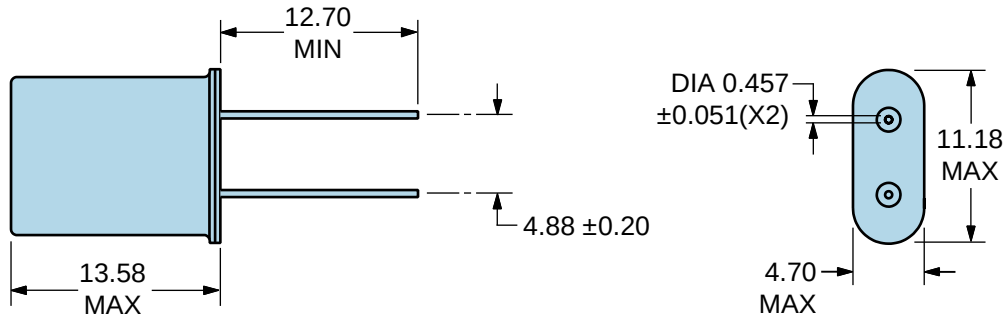
|                               |                                                                                                             |
|-------------------------------|-------------------------------------------------------------------------------------------------------------|
| Nominal Frequency             | 22.368MHz                                                                                                   |
| Frequency Tolerance/Stability | $\pm 15\text{ppm}$ at $25^\circ\text{C}$ , $\pm 30\text{ppm}$ over $0^\circ\text{C}$ to $+70^\circ\text{C}$ |
| Aging at $25^\circ\text{C}$   | $\pm 5\text{ppm/year}$ Maximum                                                                              |
| Load Capacitance              | 14pF 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     | $-40^\circ\text{C}$ to $+125^\circ\text{C}$                                                                 |
| 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              |
| Lead Termination             | Sn $2\mu\text{m}$ - $6\mu\text{m}$    |
| 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 |

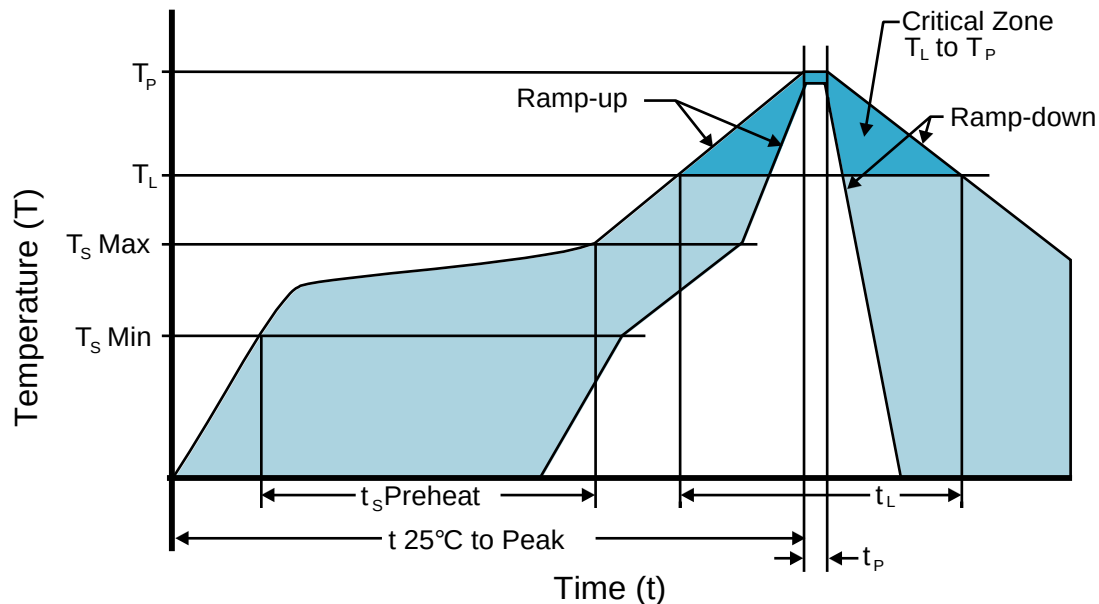
# EUGA14-22.368M

MECHANICAL DIMENSIONS (all dimensions in millimeters)



| LINE | MARKING                                       |
|------|-----------------------------------------------|
| 1    | ECLIPTEK                                      |
| 2    | E22.368M<br><i>E=Configuration Designator</i> |
| 3    | XX<br><i>XX=Ecliptek Manufacturing Code</i>   |

## 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

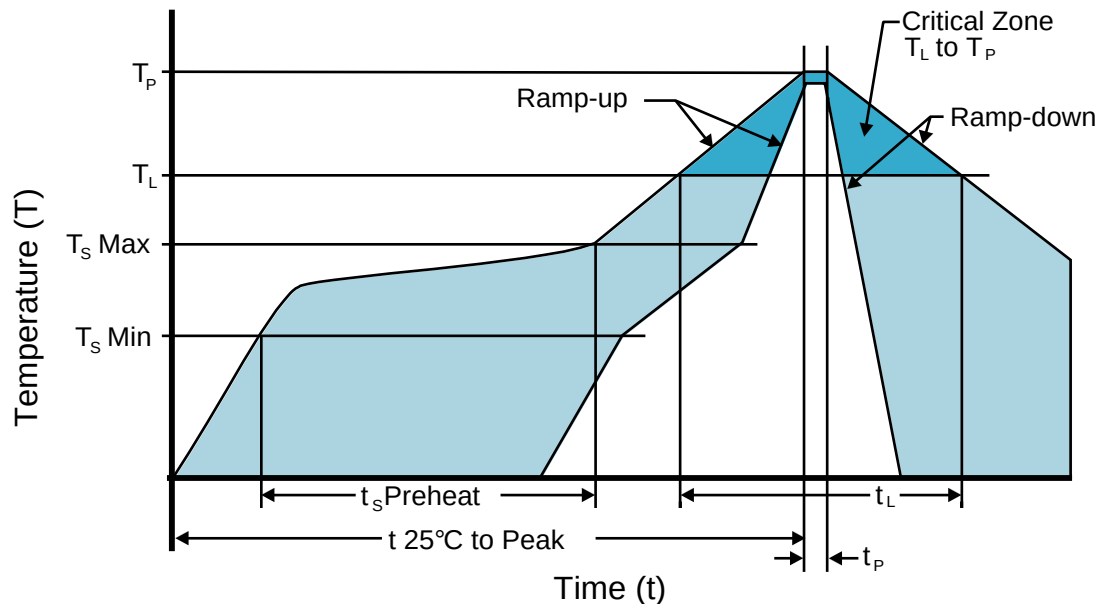
**Time within 5°C of actual peak ( $t_P$ )** 20 - 40 seconds

**Ramp-down Rate** 6°C/second Maximum

**Time 25°C to Peak Temperature (t)** 8 minutes Maximum

**Moisture Sensitivity Level** Level 1

## 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.