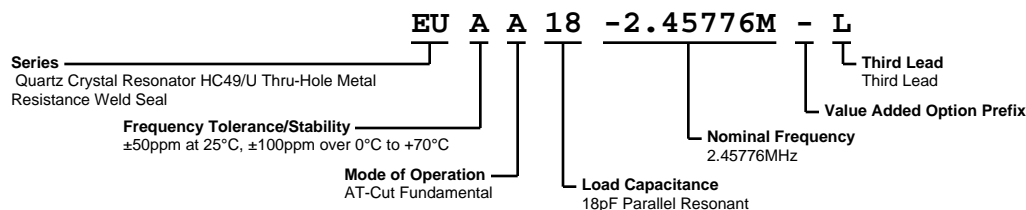


# EUAA18-2.45776M-L



## ELECTRICAL SPECIFICATIONS

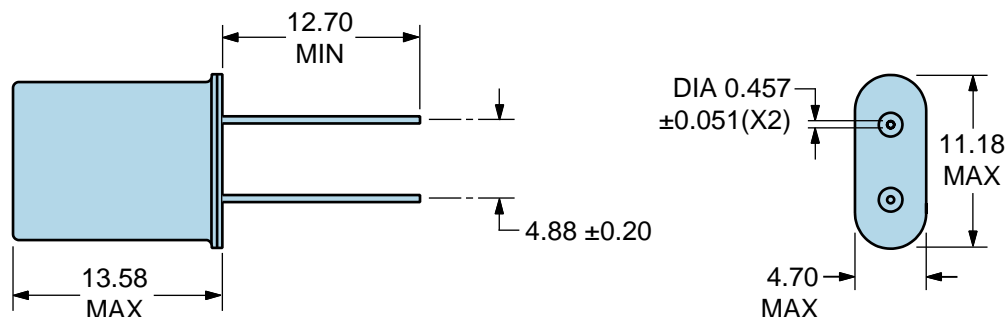
|                               |  |
|-------------------------------|--|
| Nominal Frequency             | 2.45776MHz   |
| Frequency Tolerance/Stability | $\pm 50\text{ppm}$ at $25^\circ\text{C}$ , $\pm 100\text{ppm}$ over $0^\circ\text{C}$ to $+70^\circ\text{C}$ |
| Aging at $25^\circ\text{C}$   | $\pm 5\text{ppm/year}$ Maximum   |
| Load Capacitance              | 18pF Parallel Resonant   |
| Shunt Capacitance             | 7pF Maximum  |
| Equivalent Series Resistance  | 350 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 (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         |

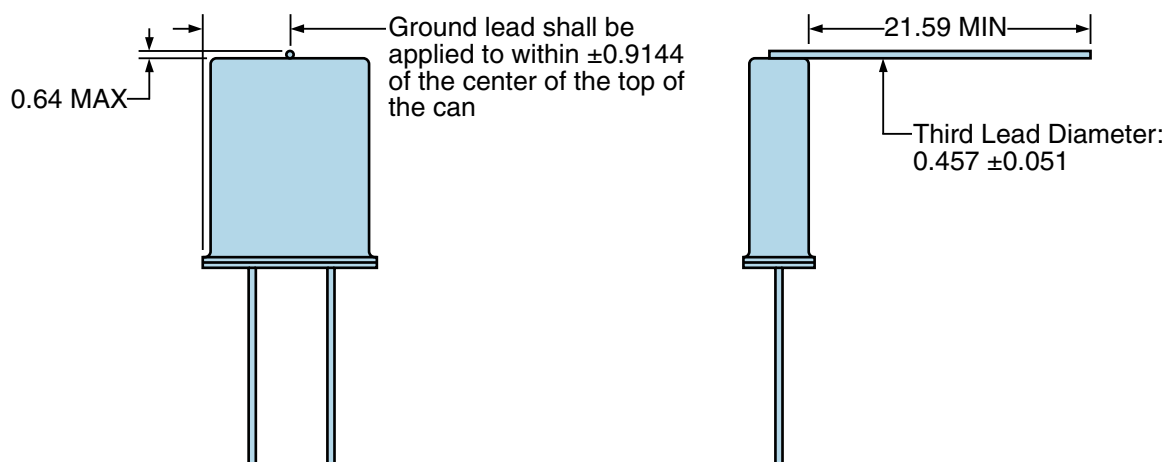
# EUAA18-2.45776M-L

## MECHANICAL DIMENSIONS (all dimensions in millimeters)



| LINE | MARKING   |
|------|---|
| 1    | ECLIPTEK  |
| 2    | E2.4577M<br><i>E=Configuration Designator</i>     |
| 3    | XX<br><i>XX=Ecliptek Manufacturing Identifier</i> |

## Value Added Option - Third Lead

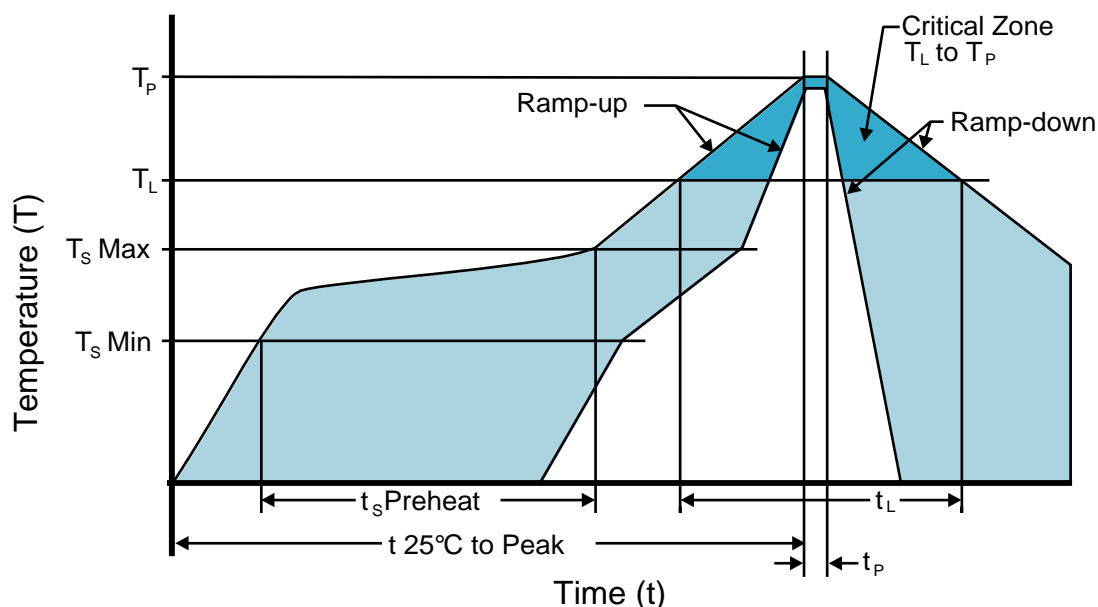


All Dimensions are in millimeters

Third lead resistance welded to can.

Third lead meets solderability requirements per MIL-STD-883, Method 2003, with RA flux.

## Recommended Solder Reflow Methods



### High Temperature Solder Bath (Wave Solder)

|  |  |
|--|--|
| <b><math>T_s \text{ MAX}</math> to <math>T_L</math> (Ramp-up Rate)</b> | 3°C/second Maximum   |
| <b>Preheat</b>   |  |
| - 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   |
| <b>Ramp-up Rate (<math>T_L</math> to <math>T_p</math>)</b>             | 3°C/second Maximum   |
| <b>Time Maintained Above:</b>  |  |
| - Temperature ( $T_L$ )  | 217°C  |
| - Time ( $t_L$ )   | 60 - 150 Seconds   |
| <b>Peak Temperature (<math>T_p</math>)</b>                             | 260°C Maximum for 10 Seconds Maximum                                       |
| <b>Target Peak Temperature (<math>T_p \text{ Target}</math>)</b>       | 250°C +0/-5°C  |
| <b>Time within 5°C of actual peak (<math>t_p</math>)</b>               | 20 - 40 seconds  |
| <b>Ramp-down Rate</b>  | 6°C/second Maximum   |
| <b>Time 25°C to Peak Temperature (t)</b>                               | 8 minutes Maximum  |
| <b>Moisture Sensitivity Level</b>                                      | Level 1  |
| <b>Additional Notes</b>  | Temperatures shown are applied to back of PCB board and device leads only. |

## Recommended Solder Reflow Methods



### Low Temperature Solder Bath (Wave Solder)

|  |  |
|--|--|
| <b><math>T_S</math> MAX to <math>T_L</math> (Ramp-up Rate)</b> | 5°C/second Maximum   |
| <b>Preheat</b>   |  |
| - 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  |
| <b>Ramp-up Rate (<math>T_L</math> to <math>T_P</math>)</b>     | 5°C/second Maximum   |
| <b>Time Maintained Above:</b>                                  |  |
| - Temperature ( $T_L$ )  | 150°C  |
| - Time ( $t_L$ )   | 200 Seconds Maximum  |
| <b>Peak Temperature (<math>T_P</math>)</b>                     | 245°C Maximum  |
| <b>Target Peak Temperature (<math>T_P</math> Target)</b>       | 245°C Maximum 1 Time / 235°C Maximum 2 Times                               |
| <b>Time within 5°C of actual peak (<math>t_p</math>)</b>       | 5 seconds Maximum 1 Time / 15 seconds Maximum 2 Times                      |
| <b>Ramp-down Rate</b>  | 5°C/second Maximum   |
| <b>Time 25°C to Peak Temperature (t)</b>                       | N/A  |
| <b>Moisture Sensitivity Level</b>                              | Level 1  |
| <b>Additional Notes</b>  | 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.)