

# E2UDA18-25.000M TR

[Click part number to visit Part Number Details page](#)

## REGULATORY COMPLIANCE (Data Sheet downloaded on Mar 12, 2019)


[Click badges to download compliance docs](#)

Regulatory Compliance standards are subject to updates by governing bodies. Click the badges to download the latest compliance docs for this part number directly from Ecliptek.



## ITEM DESCRIPTION

Quartz Crystal Resonator HC49/US Thru-Hole 3.68mm Height Metal Resistance Weld Seal 25.000MHz  $\pm 30$ ppm at 25°C,  $\pm 50$ ppm over 0°C to +70°C 18pF Parallel Resonant

## ELECTRICAL SPECIFICATIONS

|                               |  |
|-------------------------------|--|
| Nominal Frequency             | 25.000MHz  |
| Frequency Tolerance/Stability | $\pm 30$ ppm at 25°C, $\pm 50$ ppm over 0°C to +70°C |
| Aging at 25°C                 | $\pm 5$ ppm/year Maximum                             |
| Load Capacitance              | 18pF Parallel Resonant                               |
| Shunt Capacitance             | 7pF Maximum  |
| Equivalent Series Resistance  | 40 Ohms Maximum                                      |
| Mode of Operation             | AT-Cut Fundamental                                   |
| 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         |

## E2UDA18-25.000M TR [Click part number to visit Part Number Details page](#)

### MECHANICAL DIMENSIONS (all dimensions in millimeters)

| LINE | MARKING                                  |
|------|--|
| 1    | <b>E25.000M</b><br>E=Ecliptek Designator |



# E2UDA18-25.000M TR

## Tape & Reel Dimensions

Quantity Per Reel: 1,000 units

All Dimensions in Millimeters

Compliant to EIA-468



# E2UDA18-25.000M TR [Click part number to visit Part Number Details page](#)

## Recommended Solder Reflow Methods



### High Temperature Solder Bath (Wave Solder)

|  |  |
|--|--|
| $T_s \text{ MAX}$ to $T_L$ (Ramp-up Rate)                        | 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. |

# E2UDA18-25.000M TR [Click part number to visit Part Number Details page](#)

## Recommended Solder Reflow Methods



### Low Temperature Solder Bath (Wave Solder)

|  |  |
|--|--|
| $T_s$ MAX to $T_L$ (Ramp-up Rate)                          | 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.)