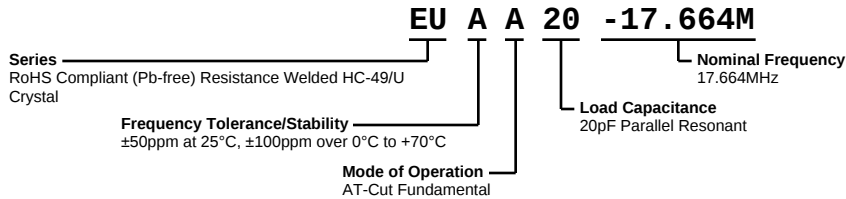


# EUAA20-17.664M



## ELECTRICAL SPECIFICATIONS

|                               |                                                                                                              |
|-------------------------------|--------------------------------------------------------------------------------------------------------------|
| Nominal Frequency             | 17.664MHz                                                                                                    |
| 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              | 20pF 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 |

# EUAA20-17.664M

MECHANICAL DIMENSIONS (all dimensions in millimeters)



| LINE | MARKING                                       |
|------|-----------------------------------------------|
| 1    | ECLIPTEK                                      |
| 2    | E17.664M<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)

**Ts MAX to TL (Ramp-up Rate)** 3°C/second Maximum

#### Preheat

- Temperature Minimum (Ts MIN) 150°C  
 - Temperature Typical (Ts TYP) 175°C  
 - Temperature Maximum (Ts MAX) 200°C  
 - Time (ts MIN) 60 - 180 Seconds

**Ramp-up Rate (TL to Tp)** 3°C/second Maximum

#### Time Maintained Above:

- Temperature (TL) 217°C  
 - Time (tL) 60 - 150 Seconds

**Peak Temperature (Tp)** 260°C Maximum for 10 Seconds Maximum

**Target Peak Temperature (Tp Target)** 250°C +0/-5°C

**Time within 5°C of actual peak (tp)** 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<sub>s</sub> MAX to T<sub>L</sub> (Ramp-up Rate)** 5°C/second Maximum

#### Preheat

- Temperature Minimum (T<sub>s</sub> MIN) N/A  
 - Temperature Typical (T<sub>s</sub> TYP) 150°C  
 - Temperature Maximum (T<sub>s</sub> MAX) N/A  
 - Time (t<sub>s</sub> MIN) 30 - 60 Seconds

**Ramp-up Rate (T<sub>L</sub> to T<sub>P</sub>)** 5°C/second Maximum

#### Time Maintained Above:

- Temperature (T<sub>L</sub>) 150°C  
 - Time (t<sub>L</sub>) 200 Seconds Maximum

**Peak Temperature (T<sub>P</sub>)** 245°C Maximum

**Target Peak Temperature (T<sub>P</sub> Target)** 245°C Maximum 1 Time / 235°C Maximum 2 Times

**Time within 5°C of actual peak (t<sub>p</sub>)** 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.