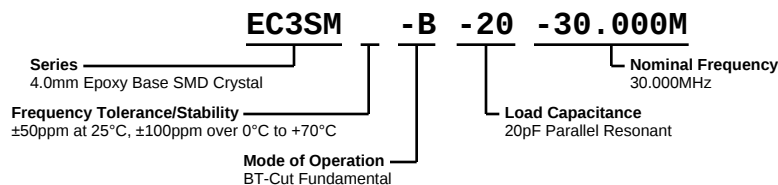


# EC3SM-B-20-30.000M



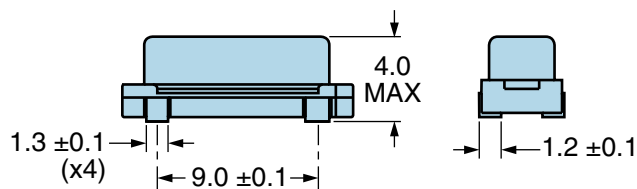
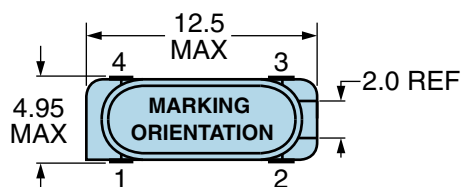
## ELECTRICAL SPECIFICATIONS

|                               |                                                                                                              |
|-------------------------------|--------------------------------------------------------------------------------------------------------------|
| Nominal Frequency             | 30.000MHz                                                                                                    |
| 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 $25^\circ\text{C}$   | $\pm 5\text{ppm}/\text{year}$ Maximum                                                                        |
| Load Capacitance              | 20pF Parallel Resonant                                                                                       |
| Shunt Capacitance (C0)        | 7pF Maximum                                                                                                  |
| Equivalent Series Resistance  | 40 Ohms Maximum                                                                                              |
| Mode of Operation             | BT-Cut Fundamental                                                                                           |
| Drive Level                   | 1mWatts Maximum                                                                                              |
| Storage Temperature Range     | $-40^\circ\text{C}$ 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 |
| 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 |

## MECHANICAL DIMENSIONS (all dimensions in millimeters)



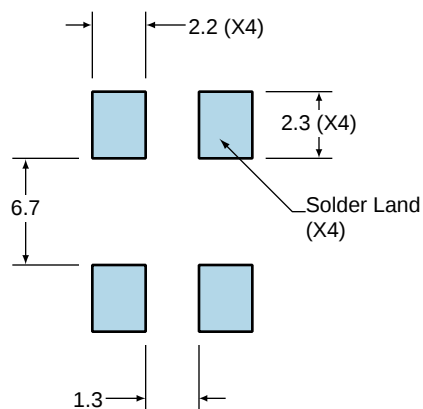
| PIN | CONNECTION         |
|-----|--------------------|
| 1   | Crystal            |
| 2   | Connected to Pin 3 |
| 3   | Connected to Pin 2 |
| 4   | Crystal            |

| LINE | MARKING                          |
|------|----------------------------------|
| 1    | E30.000<br>E=Ecliptek Designator |

# EC3SM-B-20-30.000M

## Suggested Solder Pad Layout

All Dimensions in Millimeters



All Tolerances are  $\pm 0.1$

## Recommended Solder Reflow Methods



### Low Temperature Infrared/Convection 225°C

**$T_s$  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 ( $T_P$ )** 225°C Maximum

**Target Peak Temperature ( $T_P$  Target)** 225°C Maximum 2 Times

**Time within 5°C of actual peak ( $t_p$ )** 80 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.