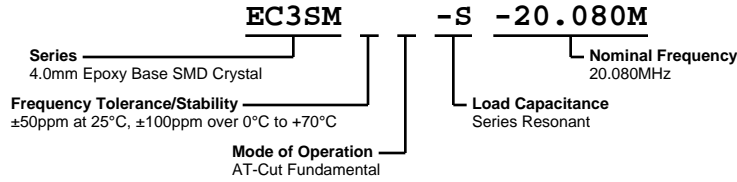


EC3SM-S-20.080M



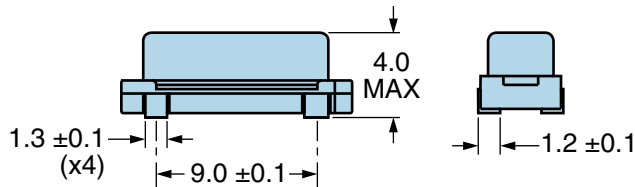
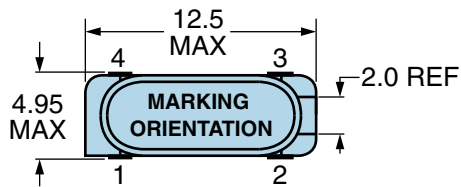
ELECTRICAL SPECIFICATIONS

| | |
|-------------------------------|---|
| Nominal Frequency | 20.080MHz |
| Frequency Tolerance/Stability | ±50ppm at 25°C, ±100ppm over 0°C to +70°C |
| Aging at 25°C | ±5ppm/year Maximum |
| Load Capacitance | Series Resonant |
| Shunt Capacitance (C0) | 7pF Maximum |
| Equivalent Series Resistance | 50 Ohms Maximum |
| Mode of Operation | AT-Cut Fundamental |
| Drive Level | 1mWatts Maximum |
| Storage Temperature Range | -40°C to +85°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)



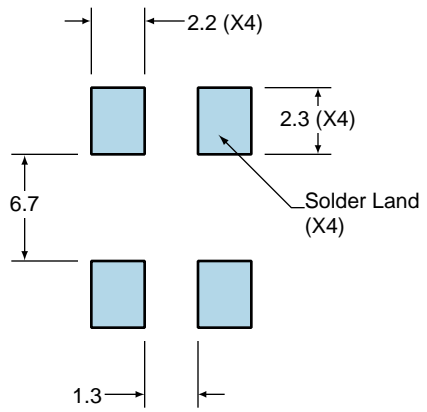
| PIN | CONNECTION |
|-----|--------------------|
| 1 | Crystal |
| 2 | Connected to Pin 3 |
| 3 | Connected to Pin 2 |
| 4 | Crystal |

| LINE | MARKING |
|------|---|
| 1 | E20.080 E=Ecliptek Designator |

EC3SM-S-20.080M

Suggested Solder Pad Layout

All Dimensions in Millimeters



All Tolerances are ± 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.