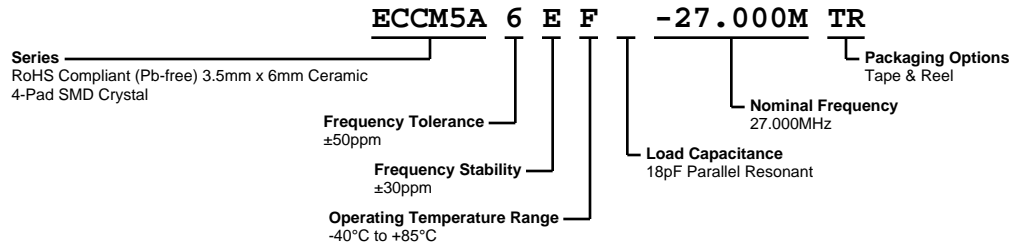


ECCM5A6EF-27.000M TR



ECLIPTEK[®]
CORPORATION



ELECTRICAL SPECIFICATIONS

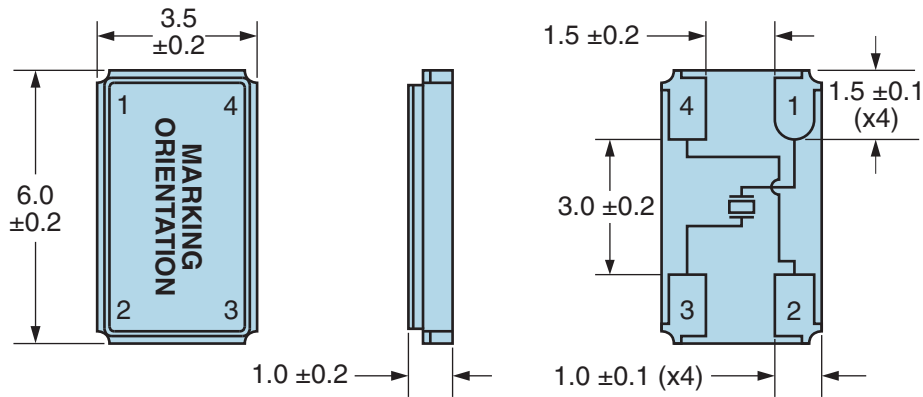
| | |
|------------------------------|---------------------------------|
| Nominal Frequency | 27.000MHz |
| Frequency Tolerance | ±50ppm |
| Frequency Stability | ±30ppm |
| Aging at 25°C | ±3ppm/year Maximum |
| Operating Temperature Range | -40°C to +85°C |
| Load Capacitance | 18pF Parallel Resonant |
| Shunt Capacitance (C0) | 5pF Maximum |
| Equivalent Series Resistance | 50 Ohms Maximum |
| Mode of Operation | AT-Cut Fundamental |
| Drive Level | 100µWatts Maximum |
| Spurious Response | -3dB Minimum; Fo to Fo +5000ppm |
| Storage Temperature Range | -40°C to +85°C |
| Insulation Resistance | 500 Megaohms Minimum 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 |
| Mechanical Shock | MIL-STD-883, Method 2002, Condition B |
| Moisture Resistance | MIL-STD-883, Method 1004 |
| Moisture Sensitivity | J-STD-020, MSL 1 |
| 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 |

ECCM5A6EF-27.000M TR

MECHANICAL DIMENSIONS (all dimensions in millimeters)



| PIN | CONNECTION |
|-----|-------------|
| 1 | Input |
| 2 | Case/Ground |
| 3 | Output |
| 4 | Case/Ground |

| LINE | MARKING |
|------|------------------------------------------------------------|
| 1 | E27.00 E=Ecliptek Designator |
| 2 | XXXXX XXXXX=Ecliptek Manufacturing Identifier |

Recommended Solder Reflow Methods



High Temperature Infrared/Convection

| | |
|----------------------------------------------------------|--------------------------------------|
| T_s MAX to T_L (Ramp-up Rate) | 3°C/second Maximum |
| Preheat | |
| - Temperature Minimum (T _s MIN) | 150°C |
| - Temperature Typical (T _s TYP) | 175°C |
| - Temperature Maximum (T _s MAX) | 200°C |
| - Time (t _s MIN) | 60 - 180 Seconds |
| Ramp-up Rate (T_L to T_p) | 3°C/second Maximum |
| Time Maintained Above: | |
| - Temperature (T _L) | 217°C |
| - Time (t _L) | 60 - 150 Seconds |
| Peak Temperature (T_p) | 260°C Maximum for 10 Seconds Maximum |
| Target Peak Temperature (T_p Target) | 250°C +0/-5°C |
| Time within 5°C of actual peak (t_p) | 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 Infrared/Convection 245°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) | 245°C Maximum |
| Target Peak Temperature (T_P Target) | 245°C Maximum 2 Times / 230°C Maximum 1 Time |
| Time within 5°C of actual peak (t_p) | 10 seconds Maximum 2 Times / 80 seconds Maximum 1 Time |
| 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.