

IL3T Series



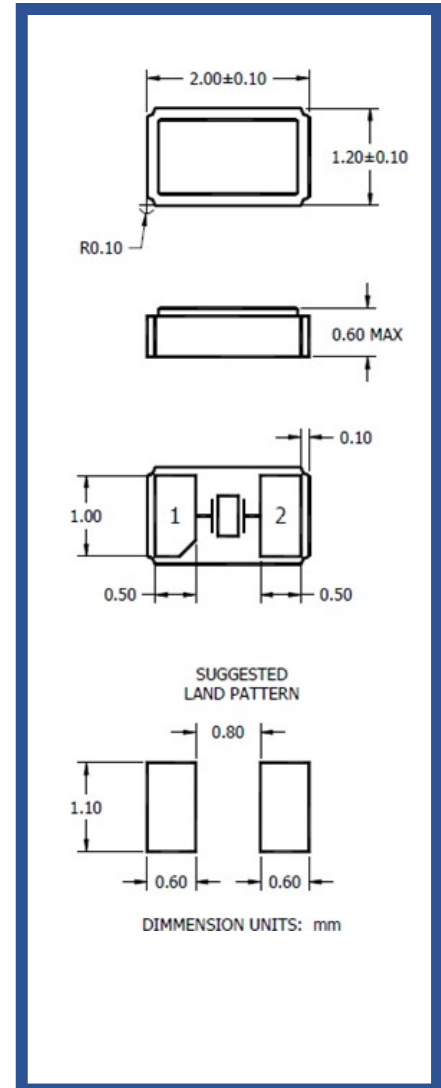
Product Feature:

Low Cost SMD Package
Pb Free/ RoSH Compliant
Ultra-Low Profile

Applications:

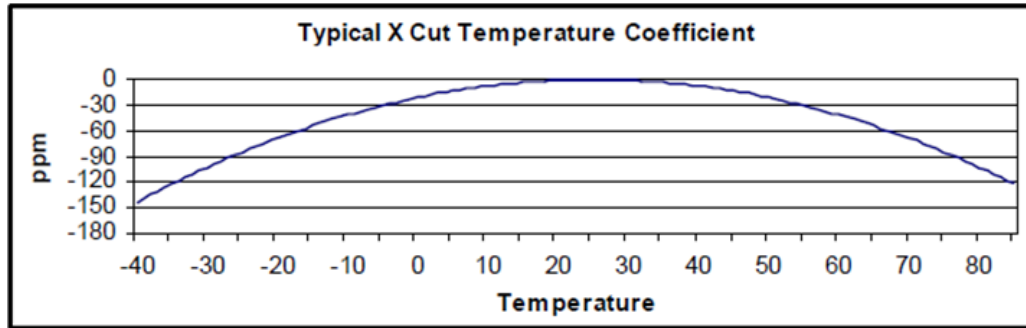
Real Time Clocks
Metering
Industrial Control
Time Reference

| | |
|---|--|
| Frequency | 32.768 kHz |
| Equivalent Series Resistance (ESR) | 90 kΩ Maximum (-40°C to +85°C Option) |
| | 110 kΩ Maximum (-40°C to +125°C Option) |
| Shunt Capacitance (Co) | 0.9 ~ 1.2pF Typical |
| Frequency Tolerance @ 25°C ±5°C | ±20 ppm (See Options) |
| Frequency Stability over Temperature | Parabolic, -0.03 ppm / ° C ² ± 0.01 ppm / ° C ² |
| Turnover point | +25° ±5°C |
| Mode of Operation | Flexural Mode (Tuning Fork) |
| Crystal Cut | Tuning Fork |
| Load Capacitance | 12.5pF (See Options) |
| Drive Level | 0.1 μW Typical, 0.5 μW Maximum |
| Aging (@25°C± 3°C) | ±2 ppm Max. / First Year |
| Q Value | 90000 Min |
| Operating Temperature Range | -40° C to +85° C (See Options) |
| Storage Temperature Range | -55° C to +125° C |
| Insulation Resistance | 500 Mohms Minimum (at 100Vdc +/-15Vdc) |

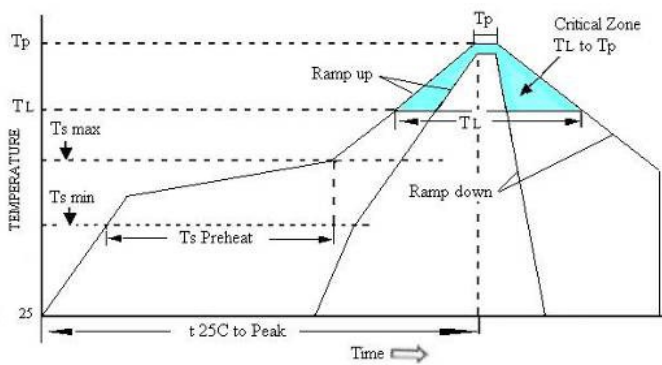


| Part Number Guide | | Sample Part Number: IL3T – HX5F12.5- 32.768kHz | | | | |
|-------------------|------------------------------------|--|-----------------------|-----------------|----------------------------|-------------|
| Package | Stability(ppm) at Room Temperature | Stability (ppm) over Operating Temperature | Operating Temperature | Mode (overtone) | Load Capacitance (pF) | Frequency |
| IL3T - | J = ±10ppm | X = X Cut | 5 = -40°C to +85°C | F = Fundamental | 4 = 4pF | -32.768 kHz |
| | H = ±20ppm | | | | 6 = 6pF | |
| | F = ±30ppm | | 6 = -40°C to +125°C | | 7 = 7pF | |
| | | | | | 9 = 9pF | |
| | | | | | 12.5 = 12.5pF (or Specify) | |

Typical X Cut Temperature Coefficient:



Pb Free Solder Reflow Profile:



| | |
|--|----------------------------|
| Ts max to TL (Ramp-up Rate) | 3°C / second max |
| Preheat | |
| Temperature min (Ts min) | 150°C |
| Temperature typ (Ts typ) | 175°C |
| Temperature max (Ts max) | 200°C |
| Time (Ts) | 60 to 180 seconds |
| Ramp-up Rate (TL to Tp) | 3°C / second max |
| Time Maintained Above Temperature (TL) Time (TL) | 217°C 60 to 150 seconds |
| Peak Temperature (Tp) | 260°C max for 10 seconds |
| Time within 5°C to Peak Temperature (Tp) | 20 to 40 seconds |
| Ramp-down Rate | 6°C / second max |
| Time 25°C to Peak Temperature | 8 minutes max |

Units are backward compatible with 240°C reflow processes

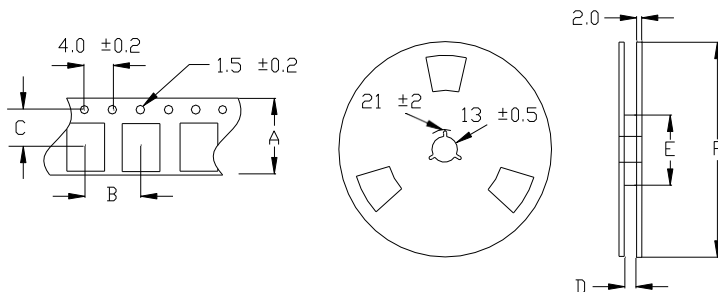
Package Information:

MSL = 1

Termination = e1 (Sn/Cu/Ag over Ni over Kovar base metal)

Note: Due to material availability, the outline and finish color of the component may vary. This variation in no way affects the electrical performance of the product.

Tape and Reel Information:



Dimensions: mm

| Quantity per Reel | 3000 |
|-------------------|-----------|
| A | 8.0 ±0.2 |
| B | 4.0 ±0.1 |
| C | 3.5 ±0.05 |
| D | 9±0.3 |
| E | 60 / 80 |
| F | 180 / 250 |

Environmental Specifications:

| | |
|------------------------------|--|
| Thermal Shock | MIL-STD-883, Method 1011, Condition A |
| Moisture Resistance | MIL-STD-883, Method 1004 |
| Mechanical Shock | MIL-STD-883, Method 2002, Condition B |
| Mechanical Vibration | MIL-STD-883, Method 2007, Condition A |
| Resistance to Soldering Heat | J-STD-020C, Table 5-2 Pb-free devices (except 2 cycles max) |
| Hazardous Substance | Pb-Free / RoHS Compliant |
| Solderability | JESD22-B102-D Method 2 (Preconditioning E) |
| Terminal Strength | MIL-STD-883, Method 2004, Test Condition D |
| Gross Leak | MIL-STD-883, Method 1014, Condition C |
| Fine Leak | MIL-STD-883, Method 1014, Condition A2, R1=2x10 ⁻⁸ atm cc/s |
| Solvent Resistance | MIL-STD-202, Method 215 |