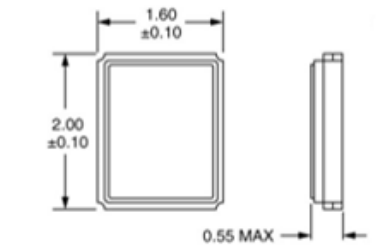
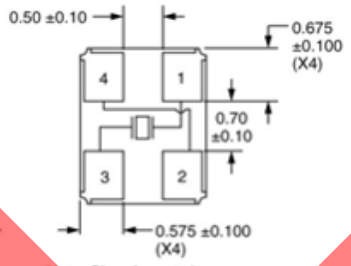
**Product Feature:**
SMD Package
Small package Foot Print
Supplied in Tape and Reel
Compatible with Leadfree Processing

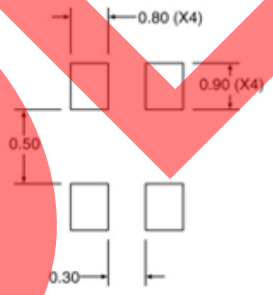
**Applications:**
PCMCIA Cards
Storage
PC's
Wireless Lan

| | |
|---|---|
| **Frequency** | 16MHz to 72MHz |
| **ESR (Equivalent Series Resistance)**<br>16MHz – 23.999999MHz<br>24MHz – 25.999999MHz<br>26MHz – 72MHz | <br>150 Ohms Maximum<br>80 Ohms Maximum<br>60 Ohms Maximum |
| **Shunt Capacitance (C0)** | 3pF Maximum |
| **Frequency Tolerance @ 25°** C | (See Part Number Guide) |
| **Frequency Stability over Temperature** | (See Part Number Guide) |
| **Mode of Operation** | Fundamental |
| **Crystal Cut** | AT Cut |
| **Load Capacitance** | 8pF to 32pF or Specify |
| **Drive Level** | 100µW Maximum |
| **Aging** | ±5ppm/Year Maximum |
| **Operating Temperature Range** | (See Part Number Guide) |
| **Storage Temperature Range** | -40°C to +85°C |




Note: Chamfer not shown.



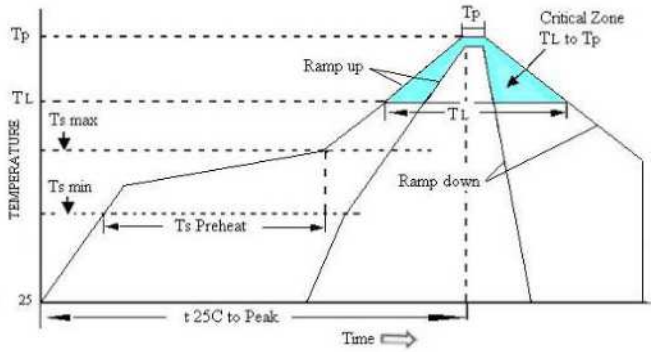

| Pin Connections | |
|---|---|
| Pin 1 | Crystal |
| Pin 2 | Cover/Ground |
| Pin 3 | Crystal |
| Pin 4 | Cover/Ground |

**Part Number Guide** **Sample Part Number: ILCX19 - FB1F18 - 20.000000 MHz**

| Package | Tolerance (ppm) at Room Temperature | Stability (ppm) over Operating Temperature | Operating Temperature Range | Mode (overtone) | Load Capacitance (pF) | Frequency |
|---|---|---|---|---|---|---|
| ILCX19 - | B = ±50 ppm | B = ±50 ppm | 0 = 0°C to +50°C | F = Fundamental | 8pF to 32pF Or Specify | - 20.000 MHz |
| | F = ±30 ppm | F = ±30 ppm | 1 = 0°C to +70°C | | | |
| | G = ±25 ppm | G = ±25 ppm | 2 = -10°C to +60°C | | | |
| | H = ±20 ppm | H = ±20 ppm | 3 = -20°C to +70°C | | | |
| | I = ±15 ppm | I = ±15 ppm** | 5 = -40°C to +85°C | | | |
| | J = ±10 ppm* | J = ±10 ppm** | 9 = -10°C to +50°C | | | |

* Not available at all frequencies. ** Not available for all temperature ranges.

## Pb Free Solder Reflow Profile:



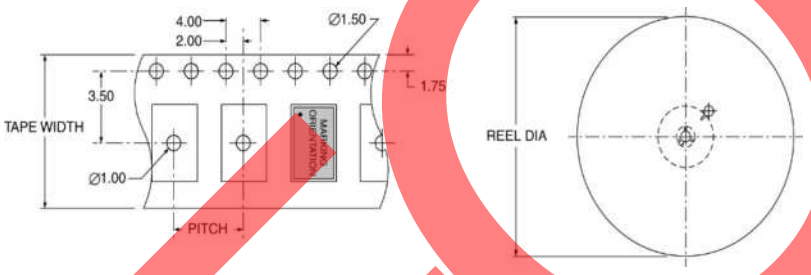

Units are backward compatible with 240C reflow processes

| | |
|---|---|
| Ts max to $T_L$ (Ramp-up Rate) | 3ºC / second max |
| Preheat<br>Temperature min (Ts min)<br>Temperature typ (Ts typ)<br>Temperature max (Ts max)<br>Time (Ts) | <br>150ºC<br>175ºC<br>200ºC<br>60 to180 seconds |
| Ramp-up Tate ($T_L$ to Tp | 3ºC / second max |
| Time Maintained Above<br>Temperature ($T_L$)<br>Time ($T_{L)}$ | <br>217ºC<br>60 to 150 seconds |
| Peak Temperature (Tp) | 260ºC max for 10 seconds |
| Time within 5ºC to Peak Temperature (Tp) | 20 to 40 seconds |
| Ramp-down Rate | 6ºC / second max |
| Tune 25ºC to Peak Temperature | 8 minutes max |

## Package Information:

MSL = 1 (package does not contain plastic; storage life is unlimited under normal room conditions)
Termination = e4 (Au over Ni over W base metal).

## Tape and Reel Information:




| | |
|---|---|
| **Quantity per Reel** | **3000** |
| **Pitch** | 4.0 ±0.2 |
| **Tape Width** | 8.0 ±0.2 |
| **Reel DIA** | 180 |

Dimensions: mm

EOL