

**Product Features:**

Low Cost SMD Package  
 Low ESR  
 Compatible with Leadfree Processing

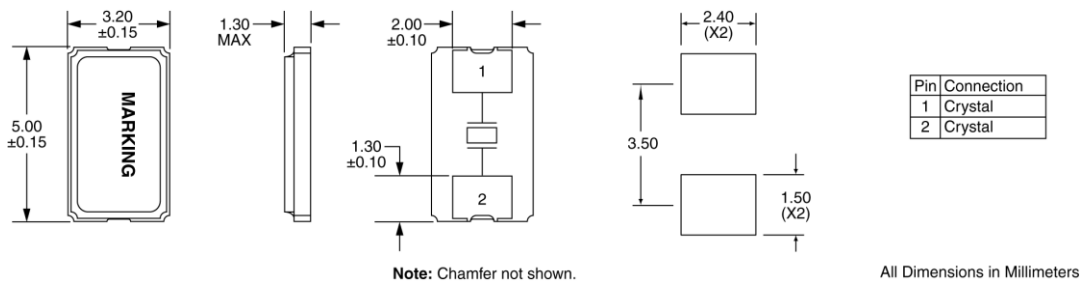
**Applications:**

Fibre Channel  
 Server & Storage  
 Sonet / SDH  
 802.11 / WiFi  
 T1/E1, T3/E3

**Electrical Specifications**

<b>Frequency</b>	8MHz to 150MHz
<b>Equivalent Series Resistance</b> 8MHz – 9.999999MHz 10MHz – 11.999999MHz 12MHz – 15.999999MHz 16MHz – 19.999999MHz 20MHz – 23.999999MHz 24MHz – 50MHz 30MHz – 150MHz (Third Overtone)	100 Ohms Maximum 80 Ohms Maximum 60 Ohms Maximum 50 Ohms Maximum 40 Ohms Maximum 30 Ohms Maximum 80 Ohms Maximum
<b>Shunt Capacitance (C0)</b>	5pF Maximum
<b>Frequency Tolerance (at 25°C)</b>	±50ppm, ±30ppm, ±25ppm, ±20ppm, ±15ppm, or ±10ppm
<b>Frequency Stability (over Temperature)</b>	±50ppm, ±30ppm, ±25ppm, ±20ppm, ±15ppm, or ±10ppm
<b>Mode of Operation</b> 8MHz – 50MHz 30MHz – 150MHz	Fundamental Third Overtone
<b>Crystal Cut</b>	AT Cut
<b>Load Capacitance</b>	8pF to 32pF or Specify
<b>Drive Level</b>	100µW Maximum
<b>Aging</b>	±5ppm/Year Maximum
<b>Operating Temperature Range</b>	See Part Number Guide
<b>Storage Temperature Range</b>	-40°C to +85°C

**Mechanical and Solder Pad Dimensions**

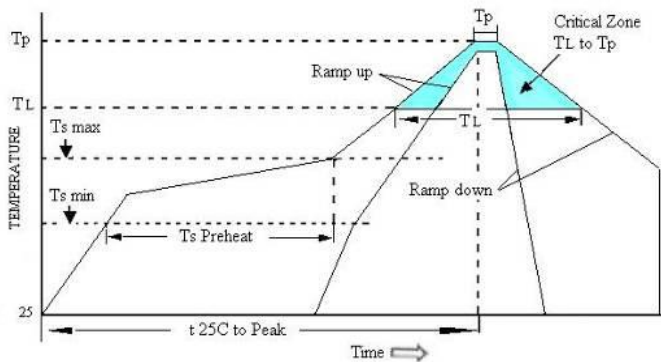


**Part Number Guide**

Sample Part Number: ILCX07A – FB1F18 – 20.000 MHz						
Package	Frequency Tolerance	Frequency Stability	Operating Temperature Range	Mode of Operations	Load Capacitance	Frequency
ILCX07A -	B = ±50ppm	B = ±50ppm	0 = 0°C to +50°C	F = Fundamental	8pF to 32pF or Specify	20.000 MHz
	F = ±30ppm	F = ±30ppm	1 = 0°C to +70°C	3 = Third Overtone		
	G = ±25ppm	G = ±25ppm	2 = -10°C to +60°C			
	H = ±20ppm	H = ±20ppm	3 = -20°C to +70°C			
	I = ±15ppm	I = ±15ppm*, **	5 = -40°C to +85°C			
	J = ±10ppm*	J = ±10ppm*, **	9 = -10°C to +50°C			
			D = -10°C to +105°C*			
		E = -40°C to +105°C*				

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

**Pb Free Solder Reflow Profile:**

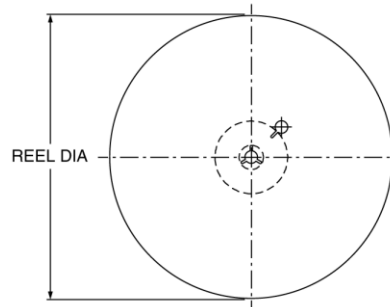
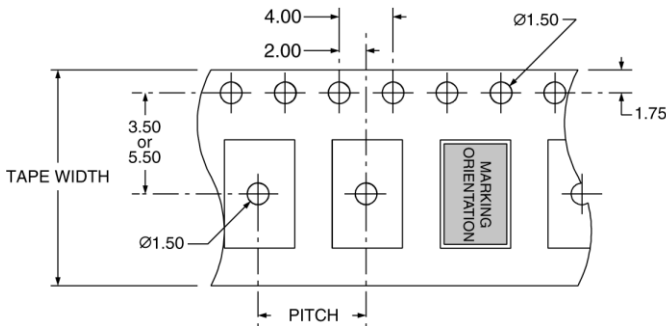


Ts max to T <sub>L</sub> (Ramp-up Rate)	3°C / second max
Preheat	
Temperature min (Ts min)	150°C
Temperature typ (Ts typ)	175°C
Temperature max (Ts max)	200°C
Time (Ts)	60 to 180 seconds
Ramp-up Rate (T <sub>L</sub> to T <sub>p</sub> )	3°C / second max
Time Maintained Above Temperature (T <sub>L</sub> ) Time (T <sub>L</sub> )	217°C 60 to 150 seconds
Peak Temperature (T <sub>p</sub> )	260°C max for 10 seconds
Time within 5°C to Peak Temperature (T <sub>p</sub> )	20 to 40 seconds
Ramp-down Rate	6°C / second max
Time 25°C 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 metallization)

**Tape and Reel Information:**



PITCH	8.00
TAPE WIDTH	12.00
REEL DIA	180
QTY PER REEL	1,000

All Dimensions in Millimeters

**Environmental Specifications:**

Mechanical Shock	MIL-STD-202, Method 213
Vibration	MIL-STD-202, Method 204
Resistance to Soldering Heat	MIL-STD-202, Method 210
Solderability	J-STD-002
Gross Leak	MIL-STD-883, Method 1014, Condition C
Fine Leak	MIL-STD-883, Method 1014, Condition A2

**Marking:**

Line 1: ILSI, Date Code (YWW)  
 Line 2: Frequency