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

Frequency	8MHz to 150MHz
Equivalent Series Resistance 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
Shunt Capacitance (C0)	5pF Maximum
Frequency Tolerance (at 25°C)	±50ppm, ±30ppm, ±25ppm, ±20ppm, ±15ppm, or ±10ppm
Frequency Stability (over Temperature)	±50ppm, ±30ppm, ±25ppm, ±20ppm, ±15ppm, or ±10ppm
Mode of Operation 8MHz – 50MHz 30MHz – 150MHz	 Fundamental Third Overtone
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

Mechanical and Solder Pad Dimensions
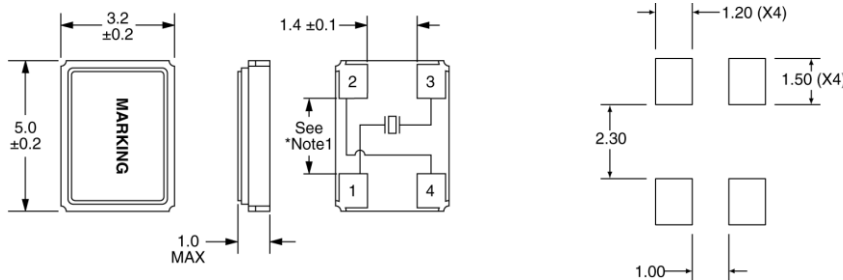
Pin	Connection
1	Crystal
2	Cover/Ground
3	Crystal
4	Cover/Ground

All Dimensions in Millimeters

Note: Chamfer not shown

*Note 1: 2.6 ±0.1mm (<= 10MHz)
2.4 ±0.1mm (> 10MHz)

Part Number Guide

Sample Part Number: ILCX07 – FB1F18 – 20.000 MHz						
Package	**Frequency Tolerance**	**Frequency Stability**	**Operating Temperature Range**	**Mode of Operations**	**Load Capacitance**	**Frequency**
ILCX07 -	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:
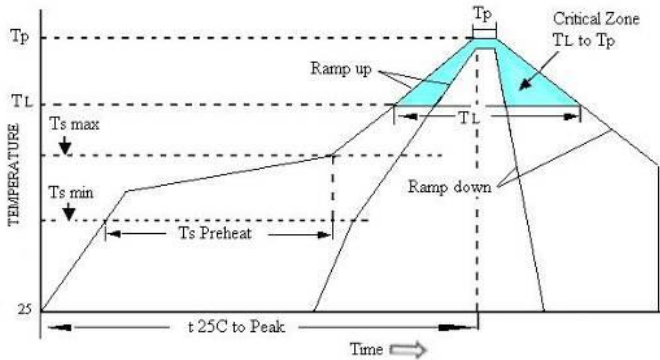
Units are backward compatible with +240°C reflow processes

Ts max to T_L (Ramp-up Rate)	3°C / second max
Preheat Temperature min (Ts min) Temperature typ (Ts typ) Temperature max (Ts max) Time (Ts)	 150°C 175°C 200°C 60 to 180 seconds
Ramp-up Tate (T_L to Tp	3°C / second max

Time Maintained Above
    Temperature (T_L)
    Time (T_L)
	
	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
Tune 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:
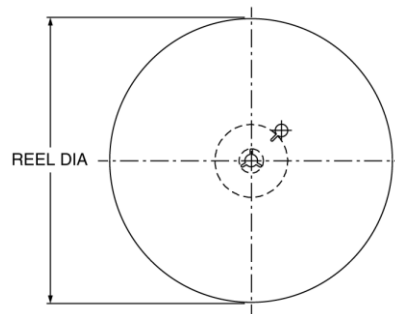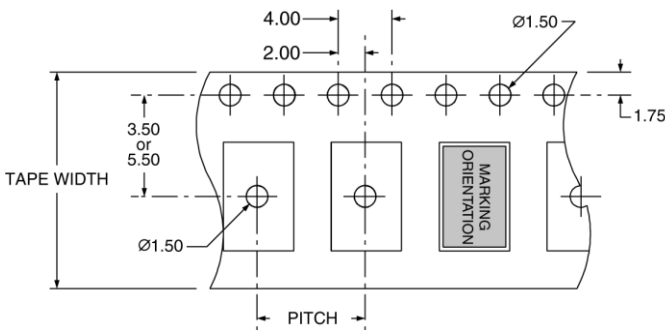
PITCH	8.00
TAPE WIDTH	12.00
REEL DIA	180
QTY PER REEL	1,000

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