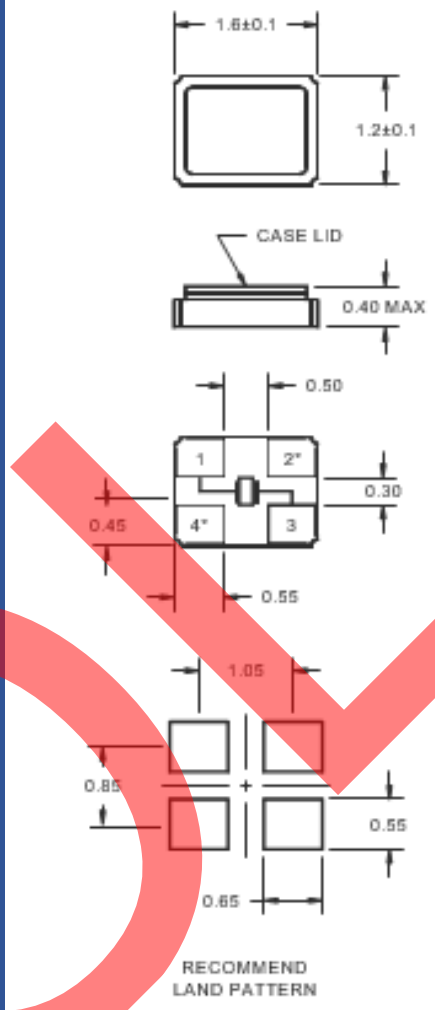
Product Feature:
Low Cost SMD Package
Ultra-Miniature Package
Compatible w/ Leadfree Processing
RoHS compliant

Applications:
Fiber Channel
Server & Storage
Sonet /SDH
802.11 / Wifi
T1/E1, T3/E3
IoT

Frequency	24MHz to 60MHz
Equivalent Series Resistance 24.0MHz – 39.999999MHz 40.0MHz – 60.0MHz	 150 Ohms Maximum 100 Ohms Maximum
Shunt Capacitance (C0)	3.5pF Maximum
Frequency Tolerance (at 25°C)	See Part Number Guide
Frequency Stability (over Temperature)	See Part Number Guide
Mode of Operation	Fundamental
Crystal Cut	AT Cut
Load Capacitance	18pF Standard
Drive Level	100µWatts Maximum
Aging	±3ppm/Year Maximum
Operating Temperature Range	See Part Number Guide
Storage Temperature Range	-40°C to +85°C



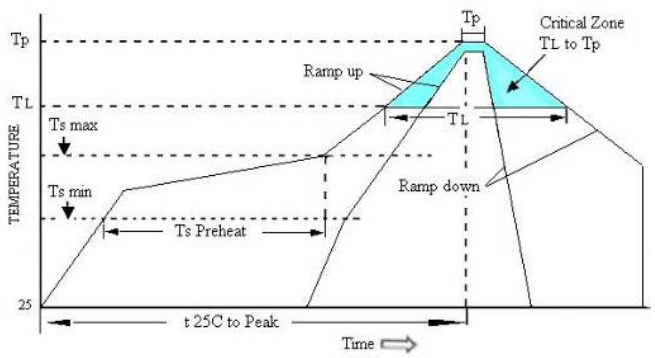
Pin Connections	
Pin 1	Crystal
Pin 2	Internally connected to case lid
Pin 3	Crystal
Pin 4	No Connect

Part Number Guide **Sample Part Number: ILCX20-FB1F18- 20.000 MHz**

Package	Tolerance (ppm) at Room Temperature	Stability (ppm) over Operating Temperature	Operating Temperature Range	Mode (overtone)	Load Capacitance (pF)	Frequency
ILCX20-	B = ±50 ppm	B = ±50 ppm	0 = 0°C to +50°C	F = Fundamental	18pF Standard 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**	7 = -30°C to +80°C			
			9 = -10°C to +50°C			

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

Pb Free Solder Reflow Profile:



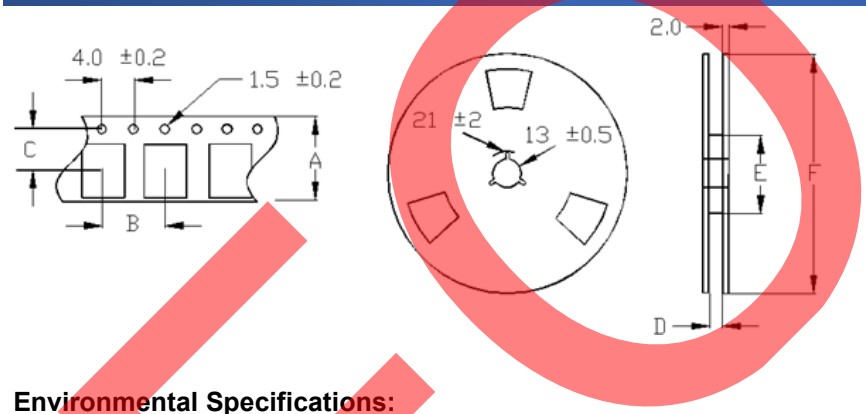
Units are backward compatible with 240C reflow processes

Ts max to T_L (Ramp-up Rate)	3ºC / second max
Preheat Temperature min (Ts min) Temperature typ (Ts typ) Temperature max (Ts max) Time (Ts)	 150ºC 175ºC 200ºC 60 to180 seconds
Ramp-up Tate (T_L to Tp	3ºC / second max
Time Maintained Above Temperature (T_L) Time ($T_{L)}$	 217ºC 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
Termination = e4 (Au over Ni over W base metal).

Tape and Reel Information:



Quantity per Reel	3000
A	8.0±0.3
B	4.0±0.2
C	3.5±0.2
D	9.0±1.0
E	60/80
F	180

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 / Green Compliant
Solderability	JESD22-B102-D Method 2 (Preconditioning E)
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