

### 4 Pad Ceramic Crystal, 1.6 mm x 1.2 mm

### ILCX20 Series

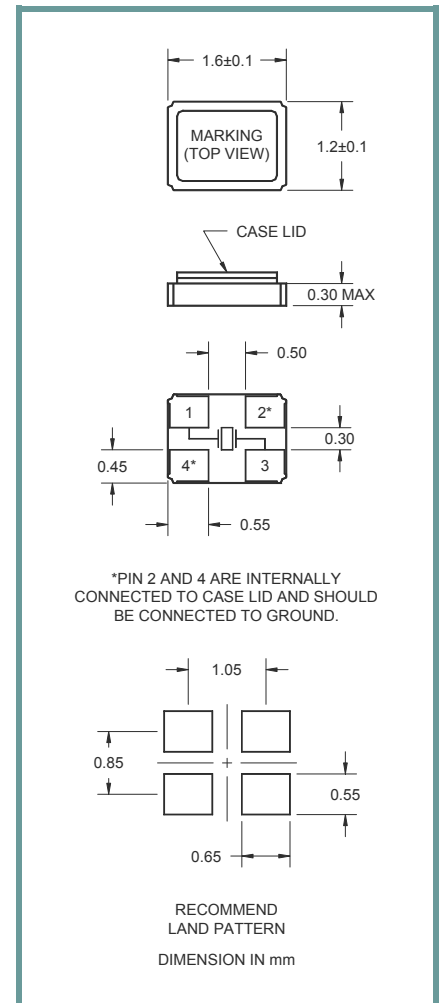
#### Product Feature:

Low Cost SMD Package  
Ultra-Miniature Package  
Compatible with Leadfree Processing  
RoHS Compliant

#### Applications:

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

<b>Frequency</b>	24 MHz to 60 MHz
<b>ESR (Equivalent Series Resistance)</b>	150 $\Omega$ Max. 100 $\Omega$ Max.
24.0 MHz – 39.9 MHz 40.0 MHz – 60.0 MHz	
<b>Shunt Capacitance (C0)</b>	5.0 pF Max.
<b>Frequency Tolerance @ 25° C</b>	$\pm 30$ ppm Standard (see Part Number Guide for more options)
<b>Frequency Stability over Temperature</b>	$\pm 50$ ppm Standard (see Part Number Guide for more options)
<b>Crystal Cut</b>	AT Cut
<b>Load Capacitance</b>	8 pF Standard
<b>Drive Level</b>	100 $\mu$ W Max.
<b>Aging</b>	$\pm 3$ ppm Max. / Year Standard
<b>Temperature</b>	
<b>Operating</b>	-10° C to +60° C (see Part Number Guide for more options)
<b>Storage</b>	-40° C to +85° C



Part Number Guide		Sample Part Number: ILCX20 - FB1F8 - 20.000				
Package	Tolerance (ppm) at Room Temperature	Stability (ppm) over Operating Temperature	Operating Temperature Range	Mode (overtone)	Load Capacitance (pF)	Frequency
ILCX20 -	B = $\pm 50$ ppm	B = $\pm 50$ ppm	0 = 0°C to +50°C	F = Fundamental	18 pF Standard Or Specify	- 20.000 MHz
	F = $\pm 30$ ppm	F = $\pm 30$ ppm	1 = 0°C to +70°C			
	G = $\pm 25$ ppm	G = $\pm 25$ ppm	2 = -10°C to +60°C			
	H = $\pm 20$ ppm	H = $\pm 20$ ppm	3 = -20°C to +70°C			
	I = $\pm 15$ ppm	I = $\pm 15$ ppm**	5 = -40°C to +85°C			
	J = $\pm 10$ ppm*	J = $\pm 10$ ppm**	9 = -10°C to +50°C			

\* Not available at all frequencies

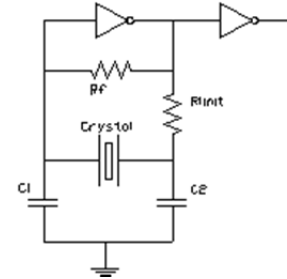
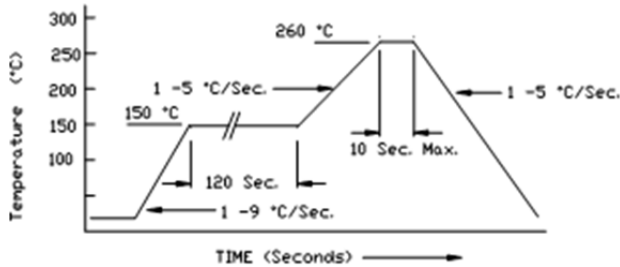
\*\* Not available for all temperature ranges

**4 Pad Ceramic Crystal, 1.6 mm x 1.2 mm**

**ILCX20 Series**

**Pb Free Solder Reflow Profile:**

**Typical Application:**



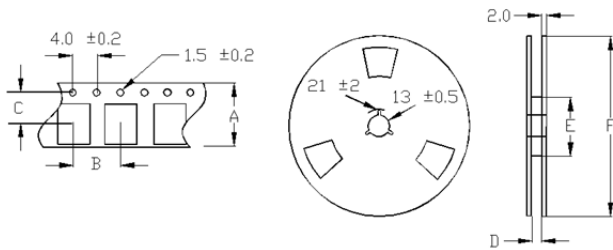
\*Units are backward compatible with 240C reflow processes

**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 or 12.0 ±3.0
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)
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 <sup>-8</sup> atm cc/s
Solvent Resistance	MIL-STD-202, Method 215

**Marking:**

Line 1: I-Date Code (yww)

Line 2: XXXX

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