

## 4 Pad Ceramic Crystal, 2.0 mm x 2.5 mm

## ILCX18 Series

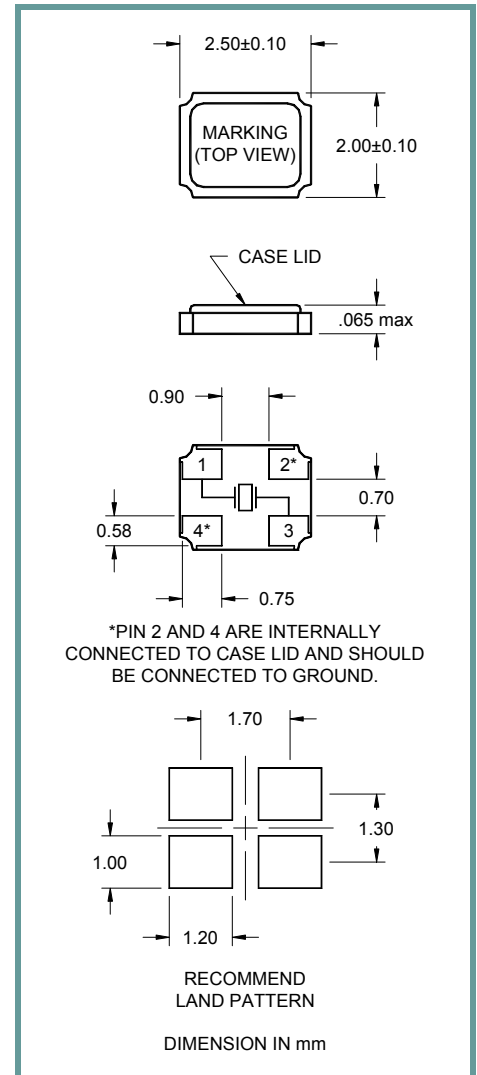
### Product Feature:

SMD Package  
Small package Foot Print  
Supplied in Tape and Reel  
Compatible with Leadfree Processing  
Fundamental Mode up to 80.0 MHz

### Applications:

PCMCIA Cards  
Storage  
PC's  
GSM Cell Phone  
Wireless Lan  
USB  
GSM Cell Phone

<b>Frequency</b>	12.0 MHz to 80.0 MHz
<b>ESR (Equivalent Series Resistance)</b>	
12 MHz – 19.9 MHz	100 $\Omega$ Max.
20 MHz – 29.9 MHz	80 $\Omega$ Max.
30 MHz – 39.9 MHz	60 $\Omega$ Max.
40 MHz – 60.0 MHz	40 $\Omega$ Max.
60 MHz – 80.0 MHz	40 $\Omega$ Max.
<b>Shunt Capacitance (C0)</b>	3.5 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>	18 pF Standard (see Part Number Guide for more options)
<b>Drive Level</b>	100 $\mu$ W Max.
<b>Aging</b>	$\pm 3$ ppm Max. / Year Standard
<b>Temperature</b>	
<b>Operating</b>	0° C to +70° C Standard (see Part Number Guide for more options)
<b>Storage</b>	-40° C to +85° C Standard



Notes:

Part Number Guide		Sample Part Number: ILCX18 - FB1F18 - 20.000				
Package	Tolerance (ppm) at Room Temperature	Stability (ppm) over Operating Temperature	Operating Temperature Range	Mode (overtone)	Load Capacitance (pF)	Frequency
ILCX18 -	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			
			D = -10°C to +105°C*			
			E = -40°C to +105°C*			

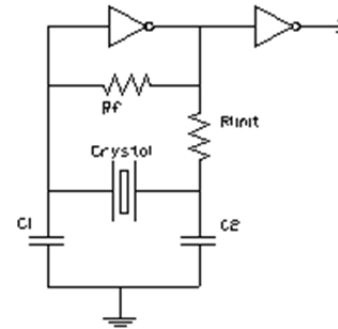
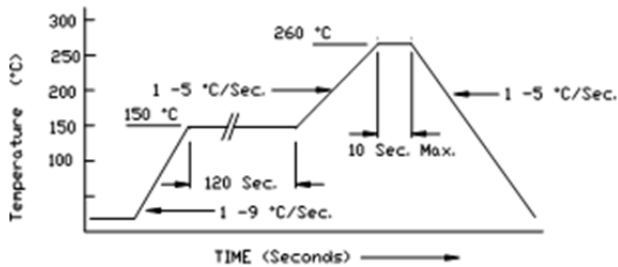
\*\* Not available for all temperature ranges.

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### Pb Free Solder Reflow Profile:

### Typical Application:



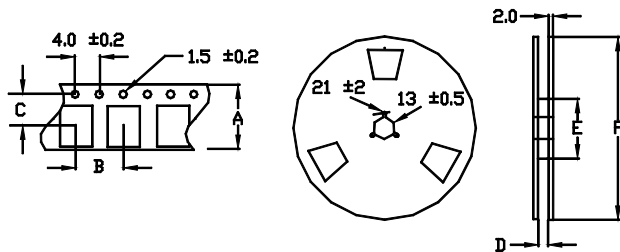
\*Units are backward compatible with 240C reflow processes

### 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: Frequency