

2 Pad Ceramic Package Quartz Crystal, 3.2 mm x 5.0 mm

ILCX03 Series

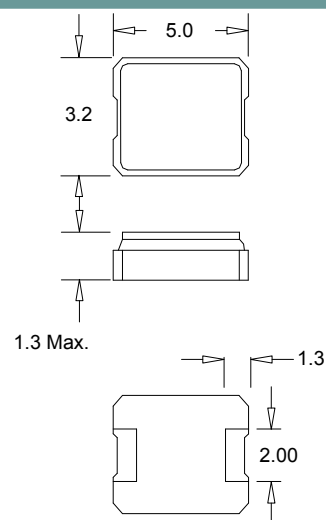
Product Features:

- Low Cost SMD Package
- Low ESR
- Compatible with Leadfree Processing

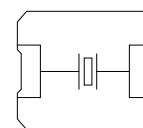
Applications:

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

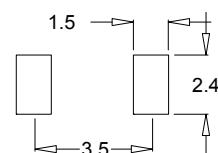
Frequency	8.000 MHz to 150.000 MHz
ESR (Equivalent Series Resistance)	
8.000 MHz – 12.000 MHz	80 Ω Max.
12.000 MHz – 16.000 MHz	60 Ω Max.
16.000 MHz – 20.000 MHz	50 Ω Max.
20.000 MHz – 24.000 MHz	40 Ω Max.
24.000 MHz – 40.000 MHz	30 Ω Max.
40.000 MHz – 60.000 MHz (3 rd O.T.)	100 Ω Max.
60.000 MHz – 150.000 MHz (3 rd O.T.)	80 Ω Max.
Shunt Capacitance (C0)	7 pF Max.
Frequency Tolerance @ 25° C	±30 ppm Standard (see Part Number Guide for more options)
Frequency Stability over Temperature	±50 ppm Standard (see Part Number Guide for more options)
Crystal Cut	AT Cut
Load Capacitance	18 pF Standard (see Part Number Guide for more options)
Drive Level	100 μ W Max.
Aging	±3 ppm Max. / Year Standard
Temperature	
Operating	0° C to +70° C Standard (see Part Number Guide for more options)
Storage	-40° C to +85° C Standard



Connection Diagram



Recommended pad layout



Dimension Units: mm

Part Number Guide		Sample Part Number: ILCX03 - FB1F18 - 20.000				
Package	Tolerance (ppm) at Room Temperature	Stability (ppm) over Operating Temperature	Operating Temperature Range	Mode (overtone)	Load Capacitance (pF)	Frequency
ILCX03 -	B = ±50 ppm	B = ±50 ppm	0 = 0°C to +50°C	F = Fundamental	18 pF Standard. Or Specify	- 20.000 MHz
	F = ±30 ppm	F = ±30 ppm	1 = 0°C to +70°C	3 = 3 rd overtone		
	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**	9 = -10°C to +50°C			

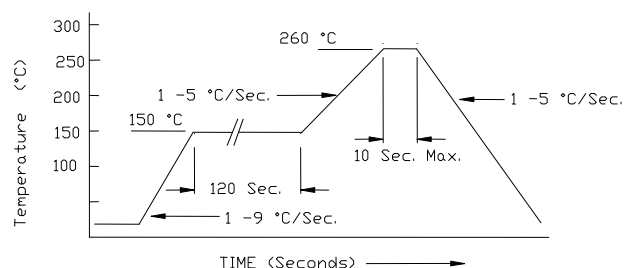
* Not available at all frequencies. ** Not available for all temperature ranges.

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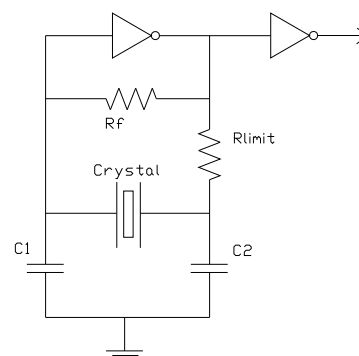
ILCX03 Series

Pb Free Solder Reflow Profile:

Typical Circuit:



*Units are backward compatible with 240C reflow processes

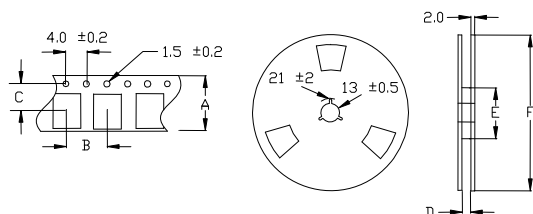


Package Information:

 $MSL = 1$

Termination = e4 (Au over Ni over W base metal).

Tape and Reel Information:



Quantity per Reel	1000 or 3000
A	12 +/- .3
B	8 +/- .2
C	5.5 +/- .2
D	13.5 +/- 1 or 12 +/- 3
E	60 / 80
F	180 / 250

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

Marking

Line 1: I-Date Code (yww)

Line 2: XXXX