

# ILSX03A Series



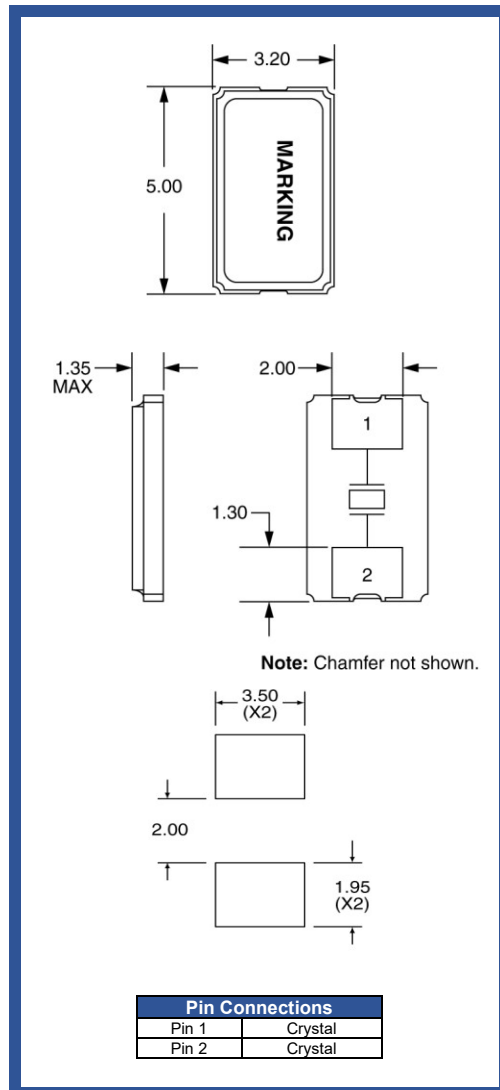
### Product Feature:

Glass Sealed, Ceramic SMD Package  
 Low Equivalent Series Resistance  
 Leadfree Package SMD Pads  
 RoHS Compliant (Exemption 7(c)-l)

### Applications:

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

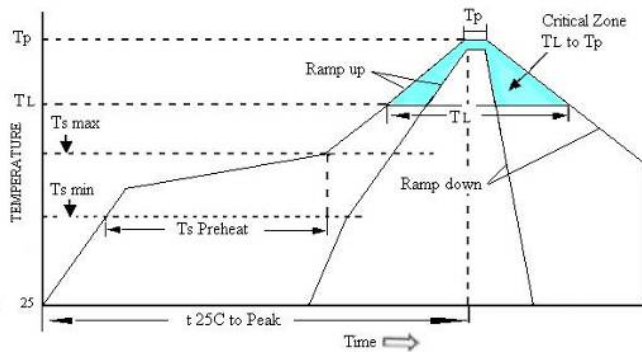
<b>Frequency</b>	7.6MHz to 54MHz
<b>Equivalent Series Resistance</b>	
7.6MHz – 11.999999MHz	100 Ohms Maximum
12MHz – 13.999999MHz	60 Ohms Maximum
14MHz – 19.999999MHz	50 Ohms Maximum
20MHz – 23.999999MHz	40 Ohms Maximum
24MHz – 54MHz	30 Ohms Maximum
<b>Shunt Capacitance (C0)</b>	5pF Maximum
<b>Frequency Tolerance (at 25°C)</b>	±50ppm, ±30ppm, ±25ppm, ±20ppm, or ±15ppm
<b>Frequency Stability (over Temperature)</b>	±50ppm, ±30ppm, ±25ppm, ±20ppm, or ±15ppm
<b>Mode of Operation</b>	Fundamental
<b>Crystal Cut</b>	AT Cut
<b>Load Capacitance</b>	8pF to 32pF or Specify
<b>Drive Level</b>	100µWatts Typical 300µWatts Maximum
<b>Aging</b>	±3ppm/Year Maximum
<b>Operating Temperature Range</b>	See Part Number Guide below
<b>Storage Temperature Range</b>	-40°C to +85°C



Part Number Guide		Sample Part Number: ILCX03A-FB1F18- 20.000 MHz				
Package	Tolerance (ppm) at Room Temperature	Stability (ppm) over Operating Temperature	Operating Temperature Range	Mode (overtone)	Load Capacitance (pF)	Frequency
ILCX03A-	B = ±50 ppm	B = ±50 ppm	0 = 0°C to +50°C	F = Fundamental	8pF to 32pF (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			
		9 = -10°C to +50°C				

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

## Pb Free Solder Reflow Profile:



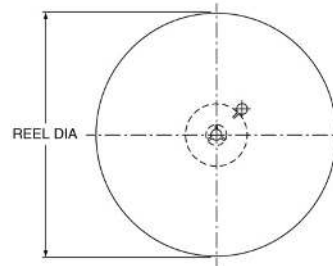
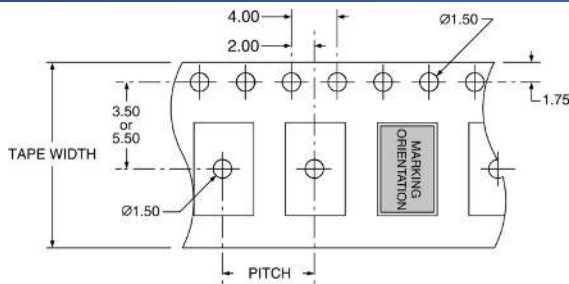
Units are backward compatible with 240C reflow processes

Ts max to TL (Ramp-up Rate)	3°C / second max
Preheat	
Temperature min (Ts min)	150°C
Temperature typ (Ts typ)	175°C
Temperature max (Ts max)	200°C
Time (Ts)	60 to 180 seconds
Ramp-up Rate (TL to Tp)	3°C / second max
Time Maintained Above Temperature (TL)	217°C
Time (TL)	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
Time 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 metal).  
 Cover: Ceramic  
 Glass Seal

## Tape and Reel Information:



Quantity per Reel	1000
Pitch	4.0
Tape Width	12.0
Reel DIA	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 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
Solvent Resistance	MIL-STD-202, Method 215