



Product Features:

Glass Sealed, Ceramic SMD Package
 Low Equivalent Series Resistance
 Leadfree Package SMD Pads
 RoHS Compliant (Exemption 7(c)-1)

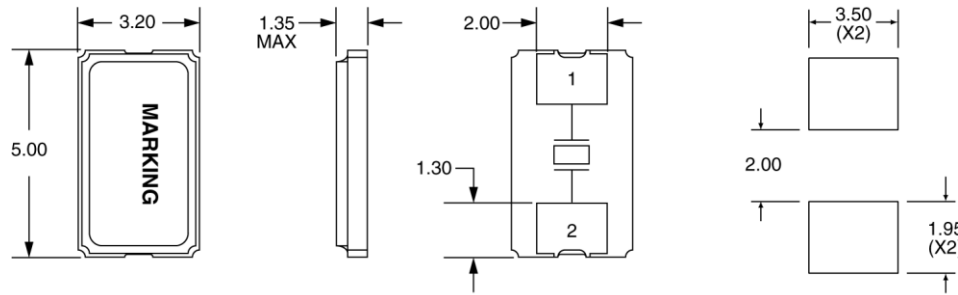
Applications:

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

Electrical Specifications

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

Mechanical and Solder Pad Dimensions



Pin	Connection
1	Crystal
2	Crystal

Note: Chamfer not shown.

All Dimensions in Millimeters

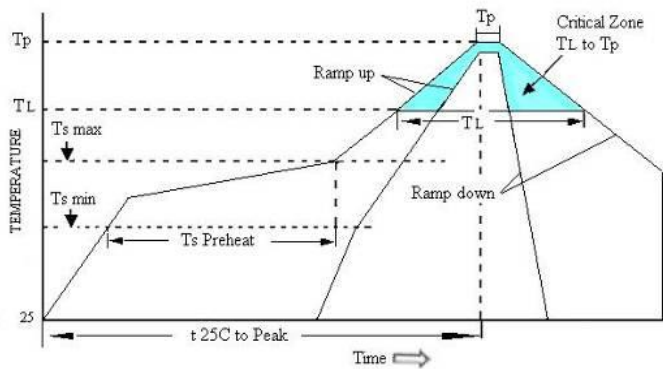
Part Number Guide

Sample Part Number: ILCX03A – FB1F18 - 20.000 MHz						
Package	Frequency Tolerance	Frequency Stability	Operating Temperature Range	Mode of Operations	Load Capacitance	Frequency
ILCX03A -	B = ±50ppm	B = ±50ppm	0 = 0°C to +50°C	F = Fundamental	8pF to 32pF or Specify	- 20.000 MHz
	F = ±30ppm	F = ±30ppm	1 = 0°C to +70°C			
	G = ±25ppm	G = ±25ppm **	2 = -10°C to +60°C			
	H = ±20ppm	H = ±20ppm **	3 = -20°C to +70°C			
	I = ±15ppm *	I = ±15ppm *, **	5 = -40°C to +85°C			
			9 = -10°C to +50°C			

* Not available at all frequencies.

** Not available for all Operating Temperature Ranges.

Pb Free Solder Reflow Profile:

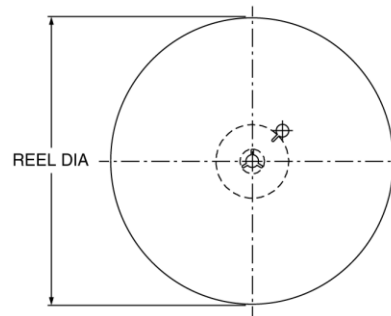
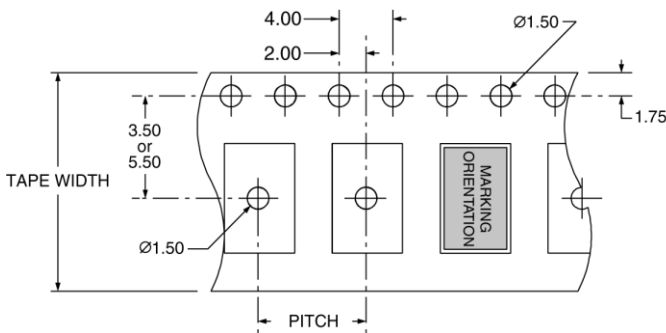


Ts max to T _L (Ramp-up Rate)	3°C / second max
Preheat	
Temperature min (Ts min)	150°C
Temperature typ (Ts typ)	175°C
Temperature max (Ts max)	200°C
Time (Ts)	60 to 180 seconds
Ramp-up Rate (T _L to T _p)	3°C / second max
Time Maintained Above Temperature (T _L) Time (T _L)	217°C 60 to 150 seconds
Peak Temperature (T _p)	260°C max for 10 seconds
Time within 5°C to Peak Temperature (T _p)	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 metallization)
 Cover: Ceramic
 Glass Seal

Tape and Reel Information:



PITCH	4.00
TAPE WIDTH	12.00
REEL DIA	180
QTY PER REEL	1,000

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: Frequency (XX.XX)
 Line 2: Date Code (Date Code = YWW)