

**Product Features:**

AEC – Q200 qualified  
 TS16949 certified production lines  
 RoHS and REACH compliant  
 Suitable for use in harsh environments  
 Extended operating temperature range: -40°C to +125°C

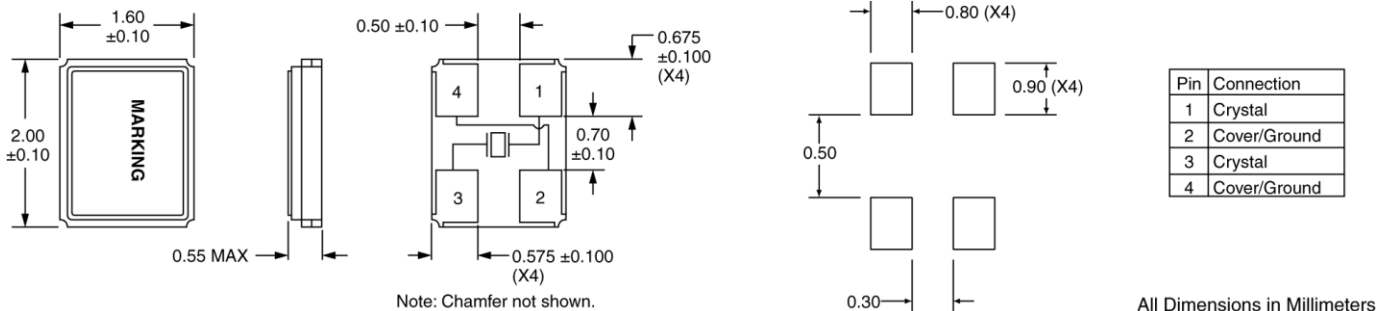
**Applications:**

Navigation, GPS  
 Infotainment System  
 Instrument Panel, Ethernet  
 ADAS Radar, Camera, Engine Control Units  
 Lidar Systems, TPMS

**Electrical Specifications**

<b>Frequency</b>	16MHz to 54MHz
<b>Equivalent Series Resistance</b> 16MHz – 20.999999MHz 20MHz – 25.999999MHz 25MHz – 39.999999MHz 40MHz – 54MHz	200 Ohms Maximum 120 Ohms Maximum 100 Ohms Maximum 60 Ohms Maximum
<b>Shunt Capacitance (C0)</b>	3pF Maximum
<b>Frequency Tolerance (at 25°C)</b>	±50ppm, ±30ppm, ±25ppm, ±20ppm, ±15ppm, or ±10ppm
<b>Frequency Stability (over Temperature)</b>	±100ppm, ±50ppm, ±30ppm, or ±20ppm
<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>	100µW Maximum
<b>Aging</b>	±3ppm/Year Maximum
<b>Operating Temperature Range</b>	-40°C to +85°C, -40°C to +105°C, or -40°C to +125°C
<b>Storage Temperature Range</b>	-50°C to +150°C

**Mechanical and Solder Pad Dimensions**

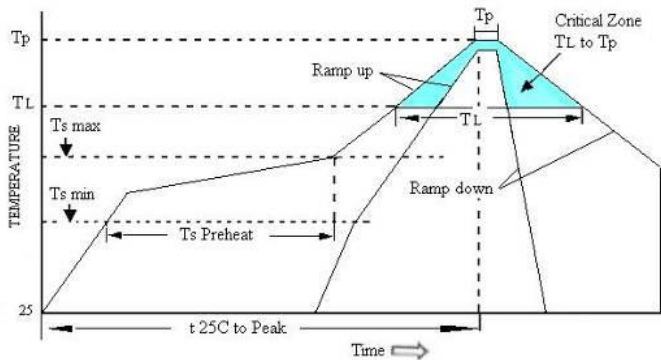


**Part Number Guide**

Sample Part Number: IXA12 – FBDF18 - 20.000 MHz						
Package	Frequency Tolerance	Frequency Stability	Operating Temperature Range	Mode of Operations	Load Capacitance	Frequency
IXA12 -	B = ±50ppm	A = ±100ppm	5 = -40°C to +85°C	F = Fundamental	8pF to 32pF or Specify	- 20.000 MHz
	F = ±30ppm	B = ±50ppm	D = -40°C to +105°C			
	G = ±25ppm	F = ±30ppm*, **	F = -40°C to +125°C			
	H = ±20ppm	H = ±20ppm*, **				
	I = ±15ppm					
	J = ±10ppm					

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

**Pb Free Solder Reflow Profile:**



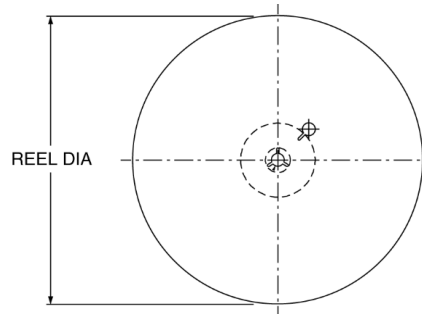
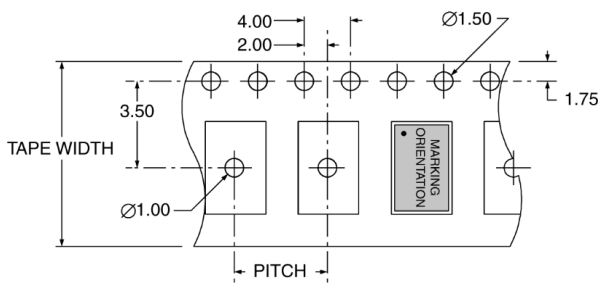
Units are backward compatible with +240°C reflow processes

Ts max to T <sub>L</sub> (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 <sub>L</sub> to T <sub>p</sub> )	3°C / second max
Time Maintained Above Temperature (T <sub>L</sub> )	217°C
Time (T <sub>L</sub> )	60 to 150 seconds
Peak Temperature (T <sub>p</sub> )	260°C max for 10 seconds
Time within 5°C to Peak Temperature (T <sub>p</sub> )	20 to 40 seconds
Ramp-down Rate	6°C / second max
Tune 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)

**Tape and Reel Information:**



PITCH	4.00
TAPE WIDTH	8.00
REEL DIA	180
QTY PER REEL	3,000

**Environmental Specifications:**

Mechanical Shock	MIL-STD-202, Method 213
Vibration	MIL-STD-202, Method 204
Resistance to Soldering Heat	MIL-STD-202, Method 210
Solderability	J-STD-002
Gross Leak	MIL-STD-883, Method 1014, Condition C
Fine Leak	MIL-STD-883, Method 1014, Condition A2

**Marking:**

Line 1: Frequency (XX.XX)  
Line 2: Date Code (YWW)