

### Product Features:

±10ppm Tolerance Available  
 SMD Package  
 Low Profile  
 RoHS and REACH Compliant

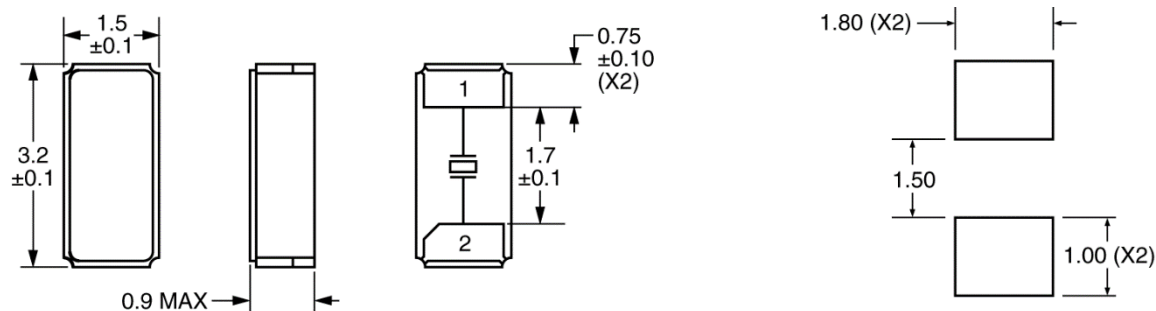
### Applications:

Real Time Clock Source  
 Metering  
 Industrial Control  
 Time Reference

### Electrical Specifications:

Frequency	32.768kHz
Equivalent Series Resistance	70 k Ohms Maximum
Shunt Capacitance (C0)	0.95pF Typical, 2.0pF Maximum
Frequency Tolerance (at 25°C)	±10ppm or ±20ppm
Frequency Stability (over Temperature)	-0.034ppm/(Change in °C) <sup>2</sup> Typical
Turn over Temperature	25°C ±5°C
Mode of Operation	Fundamental
Crystal Cut	X-Cut (Tuning Fork)
Load Capacitance	6pF, 7pF, 9pF, 12.5pF or Specify
Drive Level	1µWatt Maximum
Aging	±3ppm/Year Maximum
Operating Temperature Range	-40°C to +85°C
Storage Temperature Range	-40°C to +85°C

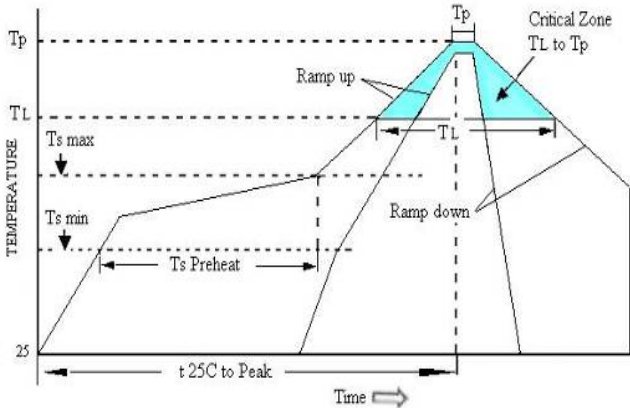
### Mechanical and Solder Pad Dimensions:



All Dimensions in Millimeters

Part Number Guide		Sample Part Number: IL3X2 – HX5F12.5 – 32.768 kHz				
Package	Frequency Tolerance	Frequency Stability	Operating Temperature Range	Mode of Operations	Load Capacitance	Frequency
IL3X2-	J = ±10ppm H = ±20ppm	X = X Cut	5 = -40°C to +85°C	F = Fundamental	6 = 6pF 7 = 7pF 9 = 9pF 12.5 = 12.5pF (or Specify)	- 32.768 kHz

## Pb Free Solder Reflow Profile:



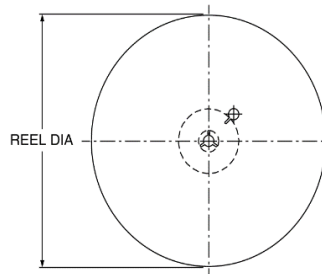
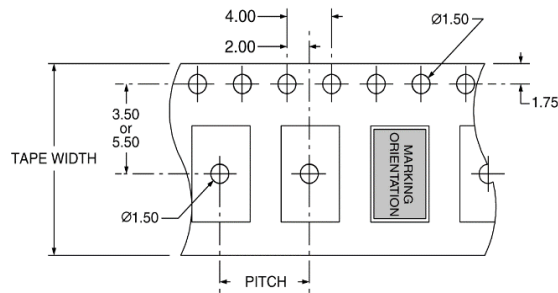
Ts max to TL (Ramp-up Rate)	3°C / second max
Preheat	
Temperature min (Ts min)	150°C
Temperature typ (Ts typ)	175°C
Temperature max (Ts max)	200°C
Time (Ts)	60 to 180 seconds
Ramp-up Rate (TL to Tp)	3°C / second max
Time Maintained Above Temperature (TL)	217°C
Time (TL)	60 to 150 seconds
Peak Temperature (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
Tune 25°C to Peak Temperature	8 minutes max

Units are backward compatible with +240°C reflow processes

## 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: Metal  
 Seam Seal

## Tape and Reel Information:



PITCH	4.00
TAPE WIDTH	12.00
REEL DIA	180
QTY PER REEL	3,000