



2 Pad Ceramic Package, 3.2mm x 1.5mm

IL3X2 Series

Product Features:

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

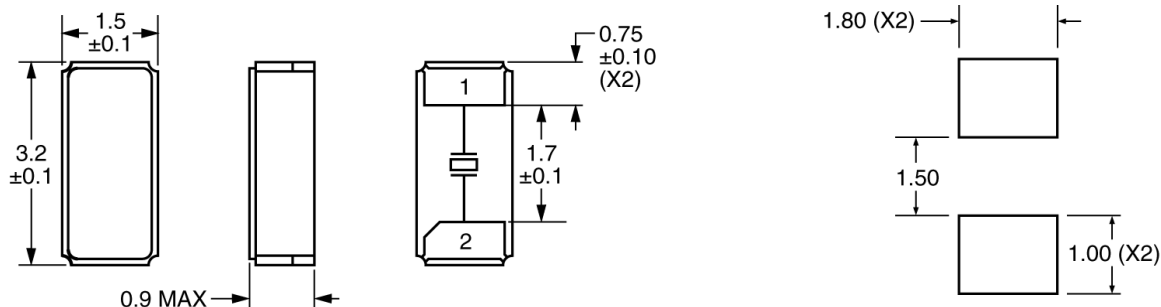
Applications:

Real Time Clock Source
Metering
Industrial Control
Time Reference

Electrical Specifications

Frequency	32.768kHz
Equivalent Series Resistance	70 kOhms 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) ² 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

QUALITY SYSTEM
CERTIFIED
= ISO 9001 =

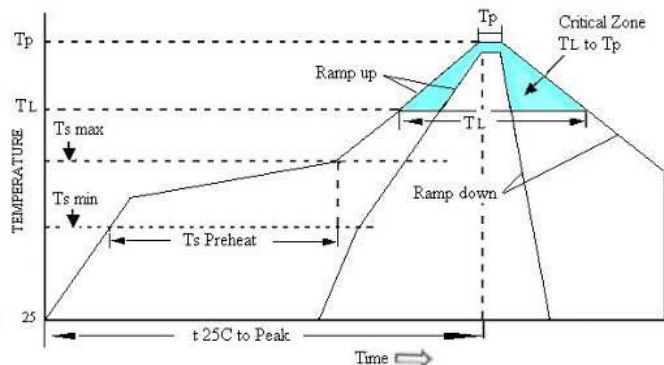
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Specifications subject to change without notice

Rev: 07/23/19_A

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Pb Free Solder Reflow Profile:



Units are backward compatible with +240°C reflow processes

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)	217°C
Time (T _L)	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
Tune 25°C to Peak Temperature	8 minutes max

Package Information:

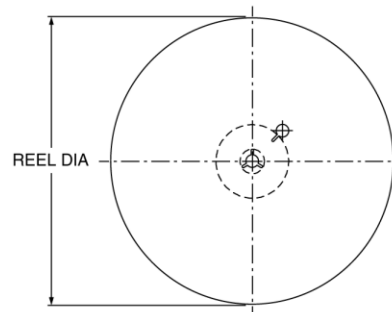
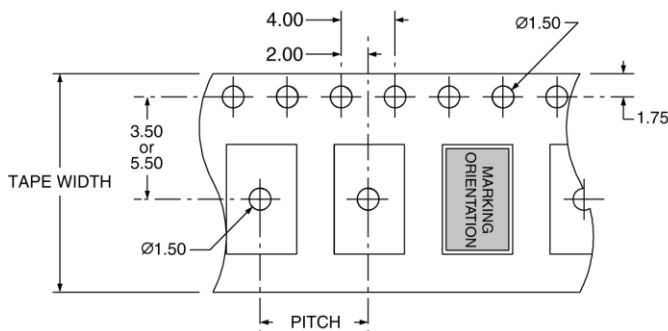
MSL = 1 (package does not contain plastic, storage life is unlimited under normal room conditions)

Termination = e4 (Au over Ni over W base metallization)

Cover: Metal

Seam Seal

Tape and Reel Information:



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

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: Manufacturer Designator, Date Code