

ECN/PCN No.: 3919

For Manufacturer			
<b>Product Description:</b> 32.768kHz SMD Crystal	<b>Abracon Part Number / Part Series:</b> IL3X	<input type="checkbox"/> Documentation only <input type="checkbox"/> ECN <input checked="" type="checkbox"/> EOL	<input checked="" type="checkbox"/> Series <input type="checkbox"/> Part Number
<b>Affected Revision:</b> J	<b>New Revision:</b> EOL	<b>Application:</b>	<input type="checkbox"/> Safety <input checked="" type="checkbox"/> Non-Safety
<b>Prior to Change:</b>  IL3X Rev. J <a href="https://abracon.com/datasheets/ILSI/IL3X.pdf">https://abracon.com/datasheets/ILSI/IL3X.pdf</a>			
<b>After Change: Removal of OE option.</b>  EOL			
<b>Cause/Reason for Change:</b> Discontinuation of this older product package type and associated manufacturing capability.			
Change Plan			
<b>Effective Date:</b> 8/9/2021	<b>Additional Remarks:</b>		
<b>Change Declaration:</b> EOL of glass seal/ceramic cover, transition to seam seal/metal cover.			
<b>Issued Date:</b> 8/9/2021	<b>Issued By:</b> <i>Stephanie López</i>	<b>Issued Department:</b> Engineering	
<b>Approval:</b> <i>Thomas Culhane</i> Engineering Director	<b>Approval:</b> <i>Reuben Quintanilla</i> Quality Director	<b>Approval:</b> <i>Ying Huang</i> Purchasing Director	
For Abracon EOL only			
<b>Last Time Buy (if applicable):</b> None	<b>Alternate Part Number / Part Series:</b> IL3X2 <a href="https://abracon.com/datasheets/ILSI/IL3X2.pdf">https://abracon.com/datasheets/ILSI/IL3X2.pdf</a>		
<b>Additional Approval:</b>	<b>Additional Approval:</b>	<b>Additional Approval:</b>	
Customer Approval (If Applicable)			
<b>Qualification Status:</b> <input type="checkbox"/> Approved <input type="checkbox"/> Not accepted <i>Note: It is considered approved if there is no feedback from the customer 1 month after ECN/PCN is released.</i>			
<b>Customer Part Number:</b>		<b>Customer Project:</b>	
<b>Company Name:</b>	<b>Company Representative:</b>	<b>Representative Signature:</b>	
<b>Customer Remarks:</b>			

### Product Features:

±10ppm Tolerance Available  
 Glass Sealed, Ceramic SMD Package  
 Low Profile  
 RoHS Compliant (Exemption 7(c)-I)

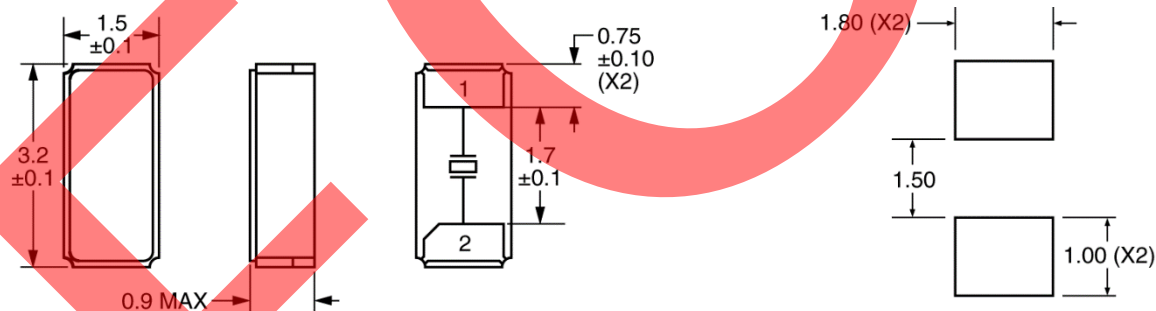
### Applications:

Real Time Clock Source  
 Metering  
 Industrial Control  
 Time Reference

### Electrical Specifications:

Frequency	32.768kHz
Equivalent Series Resistance	65 k Ohms Maximum
Shunt Capacitance (C0)	1.7pF 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

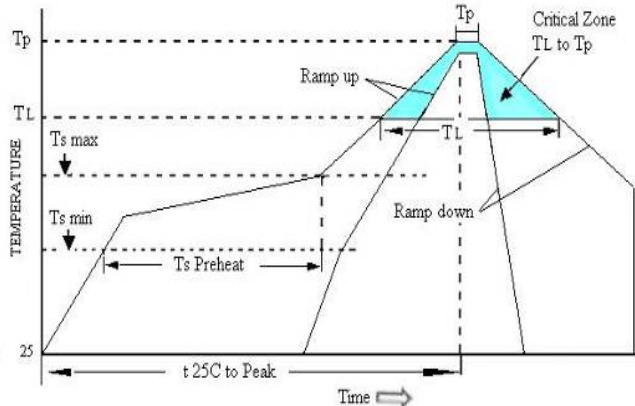
### Mechanical and Solder Pad Dimensions:



All Dimensions in Millimeters

Part Number Guide		Sample Part Number: IL3X – HX5F12.5 – 32.768 kHz				
Package	Frequency Tolerance	Frequency Stability	Operating Temperature Range	Mode of Operations	Load Capacitance	Frequency
IL3X-	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:



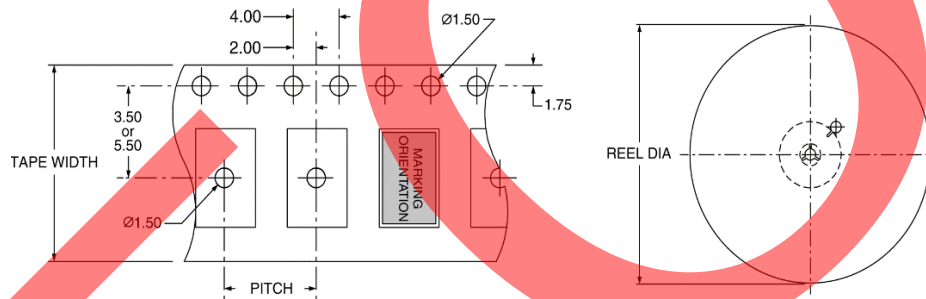
Ts max to TL (Ramp-up Rate)	3°C / second max
Preheat	
Temperature min (Ts min)	150°C
Temperature typ (Ts typ)	175°C
Temperature max (Ts max)	200°C
Time (Ts)	60 to 180 seconds
Ramp-up Rate (TL to Tp)	3°C / second max
Time Maintained Above Temperature (TL)	217°C
Time (TL)	60 to 150 seconds
Peak Temperature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

## Tape and Reel Information:



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