

# IL3R Series



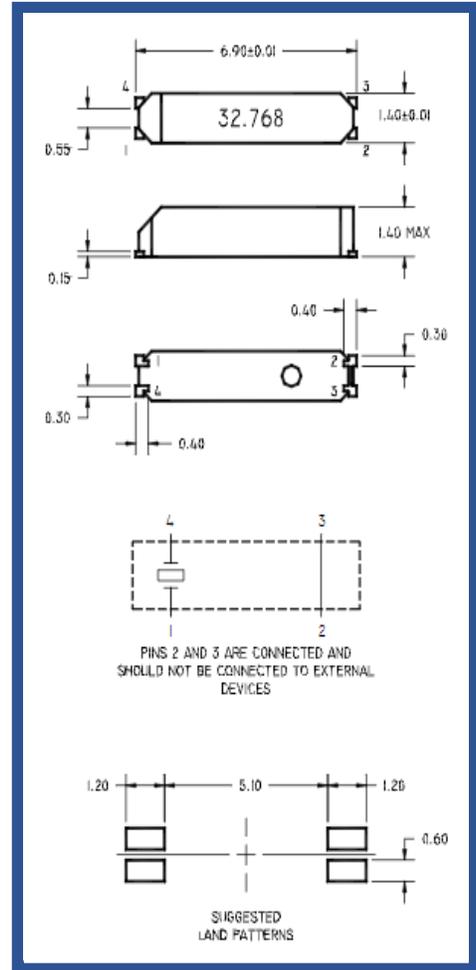
### Product Feature:

Low Cost SMD  
 Low ESR  
 Compatible with Leadfree Processing

### Applications:

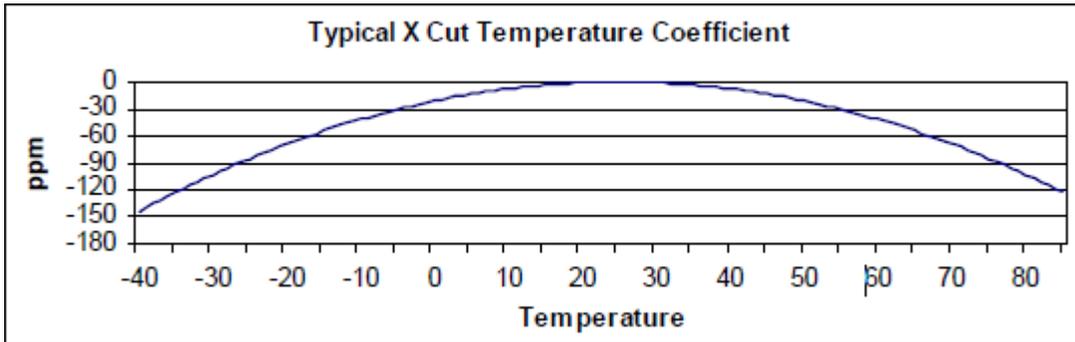
Fiber Channel  
 Server & Storage  
 Sonet/SDH  
 802.11/ Wifi

<b>Frequency</b>	32.768kHz
<b>Equivalent Series Resistance</b>	65 k Ohms Maximum
<b>Shunt Capacitance (Co)</b>	1.8 pF Typical
<b>Frequency Tolerance (at 25°C)</b>	±20ppm ( or specify)
<b>Frequency Stability (over Temperature)</b>	Parabolic, -0.035ppm / ° C2 ± 0.010 ppm / ° C2
<b>Turn over Temperature</b>	+25°C ±5°C
<b>Load Capacitance</b>	6pF, 7pF, 9pF, 12.5pF or specify
<b>Drive Level</b>	0.1 μW Typical, 1 μWatt Maximum
<b>Aging</b>	±3ppmn Maximum / First Year
<b>Operating Temperature Range</b>	-40°C to +85°C
<b>Storage Temperature Range</b>	-55° C to +125° C
<b>Insulation Resistance</b>	500 Mohms Minimum (at 100Vdc +/-15Vdc)

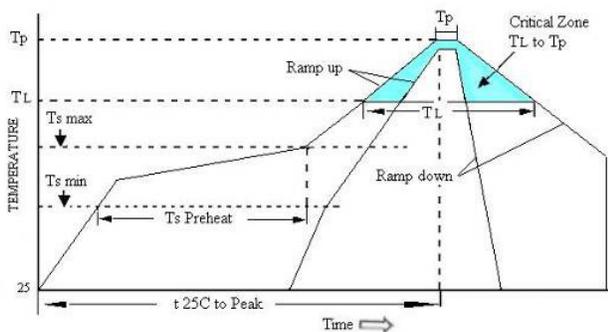


Part Number Guide		Sample Part Number: IL3R – HX5F12.5 – 32.768 kHz				
Package	Stability (ppm) at Room Temperature	Stability (ppm) over Operating Temperature	Operating Temperature Range	Mode	Load Capacitance (pF)	Frequency
IL3R -	H = ±20ppm	X = X Cut	5 = -40C to +85C	F = Fundamental	6 = 6pF 7 = 7pF 9 = 9pF 12.5 = 12.5pF	-32.768 kHz

## Typical X Cut Temperature Coefficient:



## Pb Free Solder Reflow Profile:



Units are backward compatible with 240C reflow processes

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

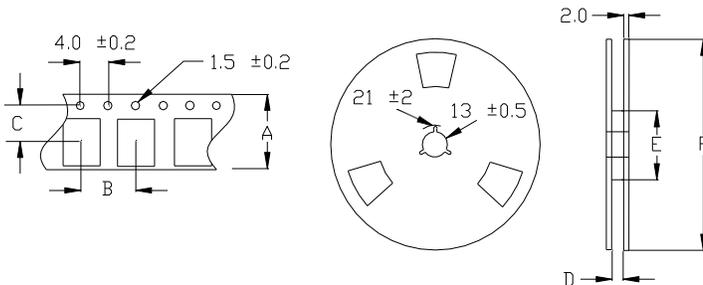
## Package Information:

MSL = Level 1

Termination = e1 (Sn/Cu/Ag over Ni over Kovar base metal)

RoHS/RoHS III Compliant. Pb in high temperature solder (exempt7(a) per 2015/863/EUAnnex)

## Tape and Reel Information:



Quantity per Reel	3000
A	16.0 ±0.3
B	4.0 ±0.2/8.0±0.1
C	7.5 ±0.2
D	17.5 ±1.5
E	60/80
F	180/330

## Environmental Specifications:

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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)
Terminal Strength	MIL-STD-883, Method 2004, Test Condition D
Gross Leak	MIL-STD-883, Method 1014, Condition C
Fine Leak	MIL-STD-883, Method 1014, Condition A2, R1 = 2x10 <sup>-8</sup> atm cc/s
Solvent Resistance	MIL-STD-202, Method 215