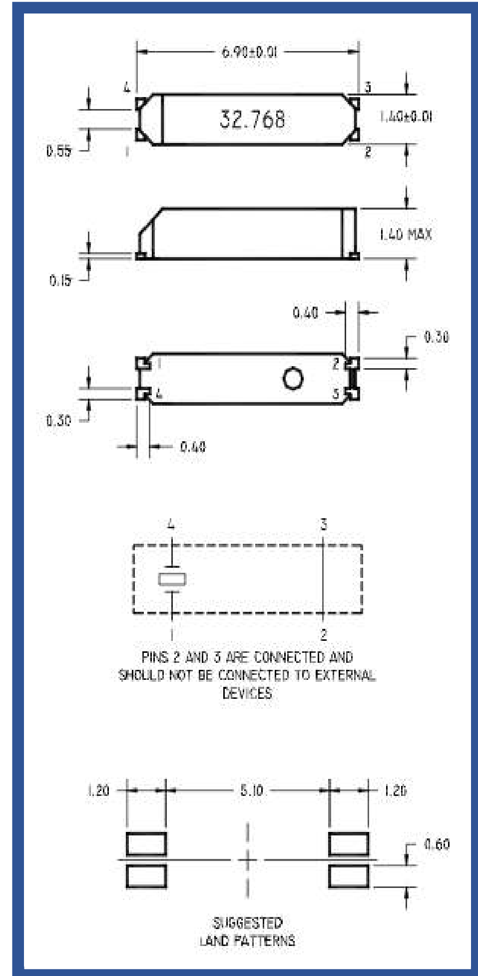
Product Feature:
Low Cost SMD
Low ESR
Compatible with Leadfree
Processing

Applications:
Fiber Channel
Server & Storage
Sonet/SDH
802.11/ Wifi

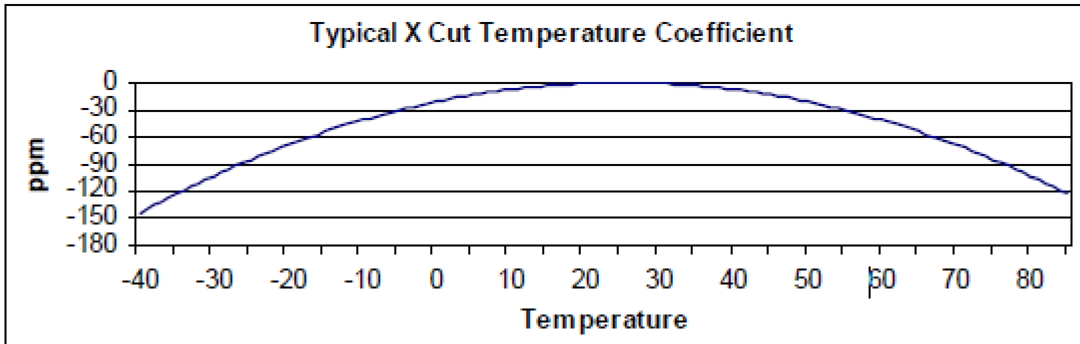
Frequency	32.768kHz
Equivalent Series Resistance	65 k Ohms Maximum
Shunt Capacitance (Co)	1.8 pF Typical
Frequency Tolerance (at 25°C)	±20ppm (or specify)
Frequency Stability (over Temperature)	Parabolic, -0.035ppm / ° C2 ± 0.010 ppm / ° C2
Turn over Temperature	+25°C ±5°C
Load Capacitance	6pF, 7pF,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



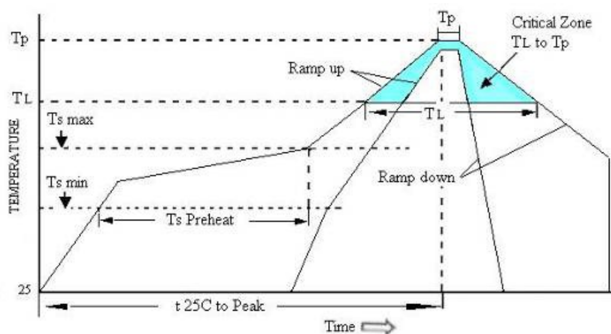
Part Number Guide **Sample Part Number:** **IL3R – HX5F12.5 – 32.768 kHz**

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:



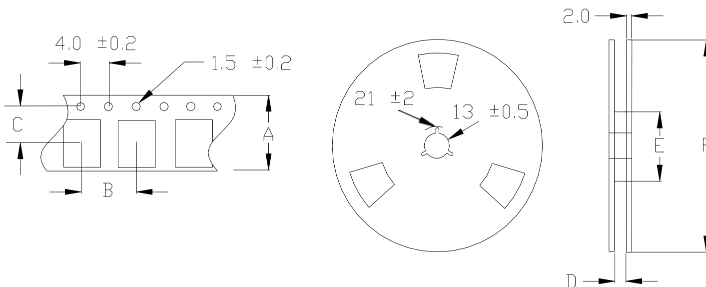
Units are backward compatible with 240C reflow processes

Ts max to T_L (Ramp-up Rate)	3ºC / second max
Preheat Temperature min (Ts min) Temperature typ (Ts typ) Temperature max (Ts max) Time (Ts)	 150ºC 175ºC 200ºC 60 to180 seconds
Ramp-up Tate (T_L to Tp	3ºC / second max
Time Maintained Above Temperature (T_L) Time (T_L)	 217ºC 60 to 150 seconds
Peak Temperature (Tp)	260ºC max for 10 seconds
Time within 5ºC to Peak Temperature (Tp)	20 to 40 seconds
Ramp-down Rate	6ºC / second max
Tune 25ºC 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:

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 = 2x10-8 atm cc/s
Solvent Resistance	MIL-STD-202, Method 215