

IL3T Series



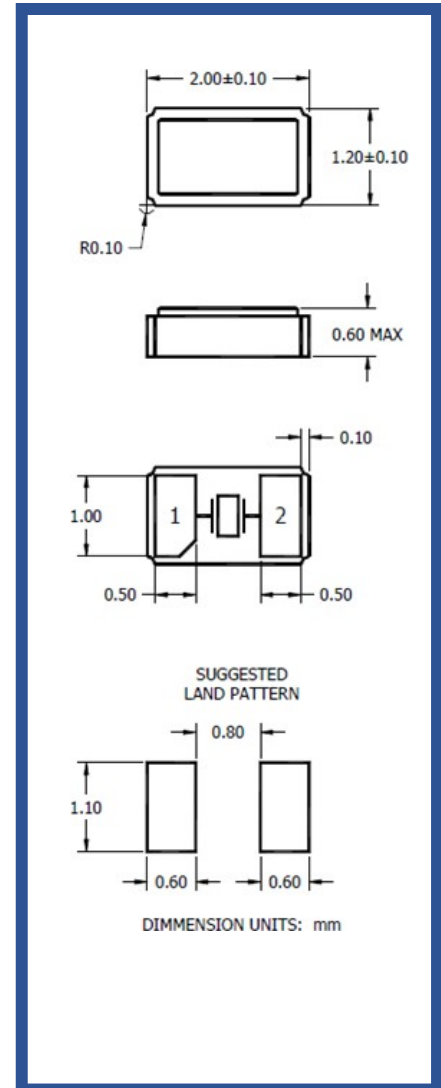
Product Feature:

Low Cost SMD Package
Pb Free/ RoSH Compliant
Ultra-Low Profile

Applications:

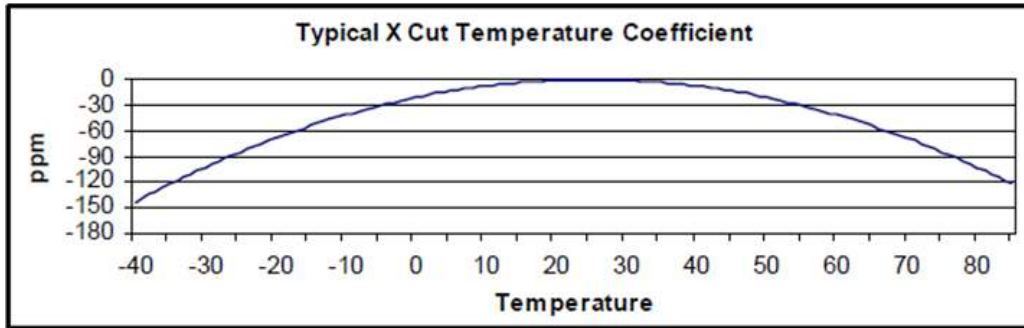
Real Time Clocks
Metering
Industrial Control
Time Reference

Frequency	32.768 kHz
Equivalent Series Resistance (ESR)	90 kΩ Maximum (-40°C to +85°C Option)
	110 kΩ Maximum (-40°C to +125°C Option)
Shunt Capacitance (Co)	0.9 ~ 1.2pF Typical
Frequency Tolerance @ 25°C ±5°C	±20 ppm (See Options)
Frequency Stability over Temperature	Parabolic, -0.03 ppm / ° C ² ± 0.01 ppm / ° C ²
Turnover point	+25° ±5°C
Mode of Operation	Flexural Mode (Tuning Fork)
Crystal Cut	Tuning Fork
Load Capacitance	12.5pF (See Options)
Drive Level	0.1 μW Typical, 0.5 μW Maximum
Aging (@25°C± 3°C)	±2 ppm Max. / First Year
Q Value	90000 Min
Operating Temperature Range	-40° C to +85° C (See Options)
Storage Temperature Range	-55° C to +125° C
Insulation Resistance	500 Mohms Minimum (at 100Vdc +/-15Vdc)

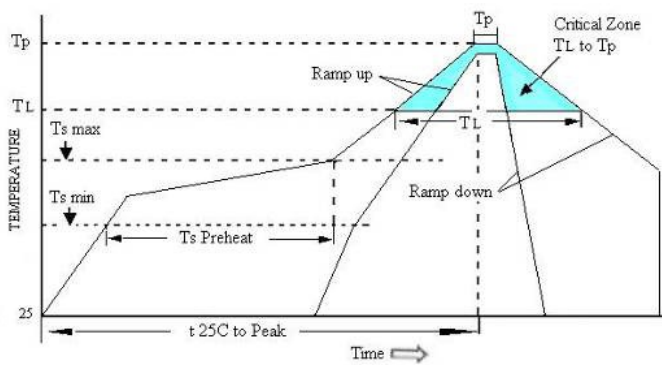


Part Number Guide		Sample Part Number: IL3T – HX5F12.5- 32.768kHz				
Package	Stability(ppm) at Room Temperature	Stability (ppm) over Operating Temperature	Operating Temperature	Mode (overtone)	Load Capacitance (pF)	Frequency
IL3T -	J = ±10ppm	X = X Cut	5 = -40°C to +85°C	F = Fundamental	4 = 4pF	-32.768 kHz
	H = ±20ppm				6 = 6pF	
	F = ±30ppm		6 = -40°C to +125°C		7 = 7pF 9 = 9pF 12.5 = 12.5pF (or Specify)	

Typical X Cut Temperature Coefficient:



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) Time (TL)	217°C 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

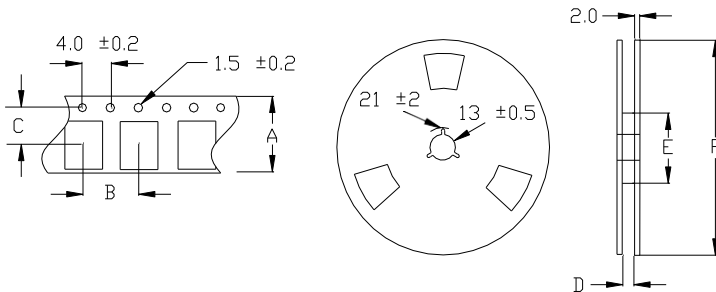
Package Information:

MSL = 1

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

Note: Due to material availability, the outline and finish color of the component may vary. This variation in no way affects the electrical performance of the product.

Tape and Reel Information:



Dimensions: mm

Quantity per Reel	3000
A	8.0 ±0.2
B	4.0 ±0.1
C	3.5 ±0.05
D	9±0.3
E	60 / 80
F	180 / 250

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 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