



# 4 Pad Plastic Package Quartz Crystal, 3.8 mm x 8 mm



## IL3M Series

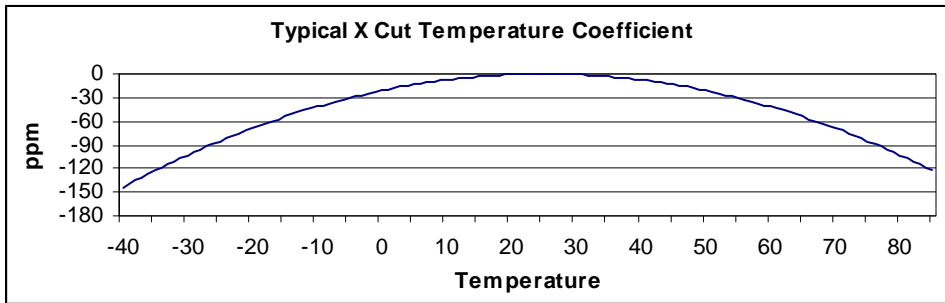
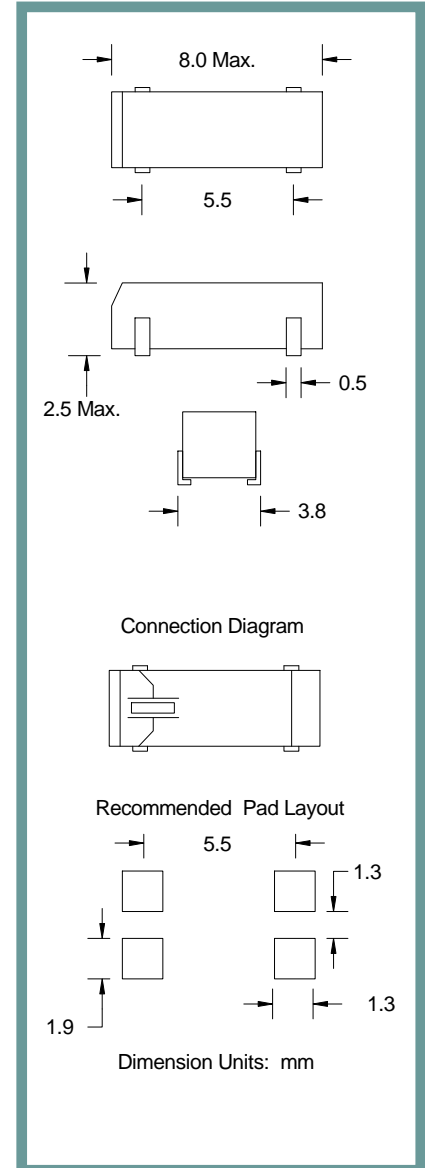
### Product Features:

- ±20 ppm Stability
- SMD Package
- RoHS Compliant

### Applications:

- Real Time Clocks
- Metering
- Industrial Control
- Time Reference

<b>Frequency</b>	32.768 kHz
<b>ESR (Equivalent Series Resistance)</b>	50 kΩ Max.
<b>Shunt Capacitance (C0)</b>	1.7 pF Typical
<b>Frequency Tolerance @ 25° C</b>	±20 ppm Standard
<b>Frequency Stability over Temperature</b>	Parabolic -0.034 ppm / ° C <sup>2</sup> Typical. Inflection point approx. 27° C, See Graph Below
<b>Crystal Cut</b>	X-Cut
<b>Load Capacitance</b>	12.5 pF Standard
<b>Drive Level</b>	1 uW Max.
<b>Aging</b>	±5 ppm Max. / Year Standard
<b>Temperature</b>	
<b>Operating</b>	-40° C to +85° C Standard
<b>Storage</b>	-40° C to +85° C Standard



Part Number Guide		Sample Part Number: IL3M - HX5F12.5 - 32.768 kHz				
Package	Stability (ppm) at Room Temperature	Stability (ppm) over Operating Temperature	Operating Temperature Range	Mode (overtone)	Load Capacitance (pF)	Frequency
IL3M -	H = ±20 ppm	X = X Cut	5 = -40°C to +85°C	F = Fundamental	12.5 pF Standard 6 pF Available	- 32.768 kHz



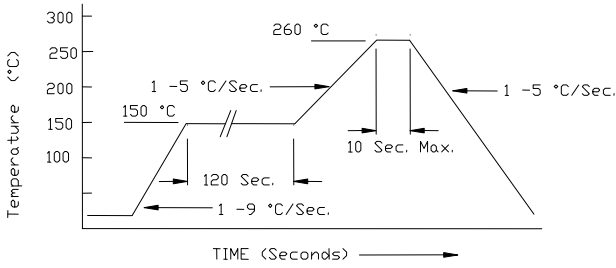
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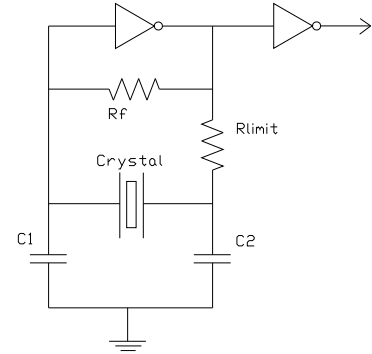
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**Pb Free Solder Reflow Profile:**

**Typical Circuit:**



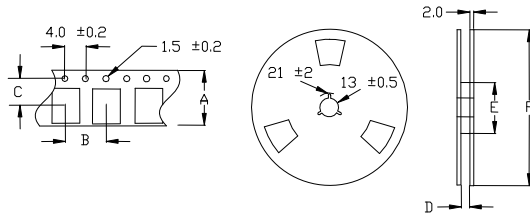
\*Units are backward compatible with 240C reflow processes



**Package Information:**

MSL = 2  
Termination = e1 (Sn/Cu/Ag over Ni over Kovar base metal)

**Tape and Reel Information:**



Quantity per Reel	3000
A	16 +/- .3
B	8 +/- .2
C	7.5 +/- .2
D	17.5 +/- 1.5
E	50 / 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 / 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

**Marking**

Line 1: 32.768  
Note: Date Code on Product Label (MYY)  
M=A-H(Jan -Aug), J-M (Sept-Dec)

