

### FEATURES

- Miniature Package
- 2.5mm Height
- Long Term Stability
- Tape and Reel (3,000 pcs. STD)



### • PART NUMBER [Learn More](#) - Internet Required

Part Number	Model Number	Frequency Stability	Operating Temperature	Frequency
414-Frequency-xxxxx	FSR	See table	-40 °C~ +85 °C	32.768 kHz

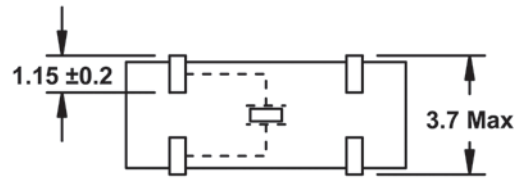
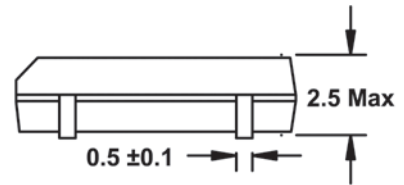
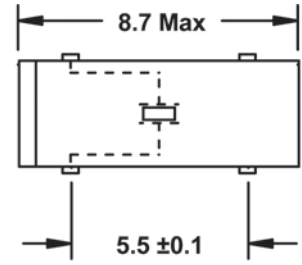
### • STANDARD SPECIFICATIONS

PARAMETERS	MAX (unless otherwise noted)
Frequency	32.768 kHz
Frequency Tolerance @ 25°C	±20 PPM
Frequency Stability Temperature Coefficient	-0.04 PPM / (Δ°C) <sup>2</sup>
Temperature Range	
Turnover (TO)	+20°C ~ +30°C
Operating (TOPR)	-40°C ~ +85°C
Storage (TSTG)	-55°C ~ +125°C
Equivalent Series Resistance (RS)	50 kΩ
Load Capacitance (CL)	12.5 pF (Standard) 6 pF (Optional)
Insulation Resistance @ 100VDC	500 MΩ Min
Drive Level	1.0 μW
Aging per year	±3 PPM

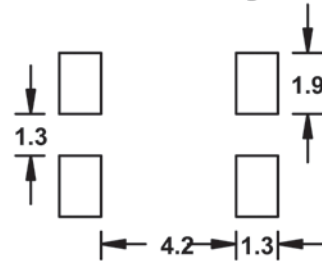
All specifications subject to change without notice. Rev. 7/12/04



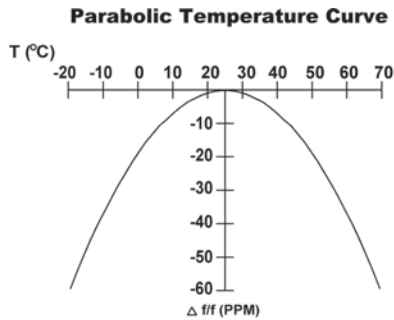
Learn more about:  
[Part Marking Identification](#)  
[Tape and Reel Specification](#)  
Internet required



### Recommended Solder Pad Layout



All dimensions are in millimeters.



To determine frequency stability, use parabolic curvature (K).  
For example: What is stability at 45°C?

- 1) Change in T (°C) = 45-25 = 20°C
- 2) Change in frequency = -0.04 PPM \* (Δ C)<sup>2</sup>  
= -0.04 PPM \* (20)<sup>2</sup>  
= -16.0 PPM