

## Research for Frequency Products

### Description

This low profile 4 pad SMD ceramic package has been special designed for MPU clock, telecom and miniature electronic applications. All frequencies are vibrated in fundamental mode. 1000 parts are in 8mm embossed tape in reel as standard.

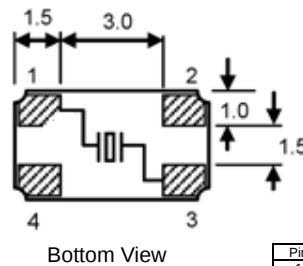
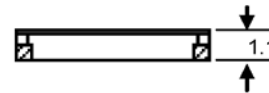
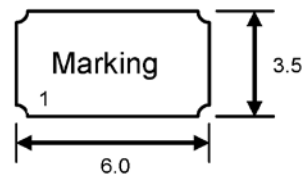
### Features

Tight Tolerance  $\pm 10\text{ppm}$  available  
Ultra small size as 6.0x3.5mm  
Thin package height as 1.0mm  
SMD in high population PCB assembly  
**RoHS Complaint**

**Ceramic (SEAM seal) Crystal**  
6.0x3.5x1.0mm SMD (4 pad)  
8.000MHz ~ 48.000MHz



### Outlines and Dimensions



Bottom View

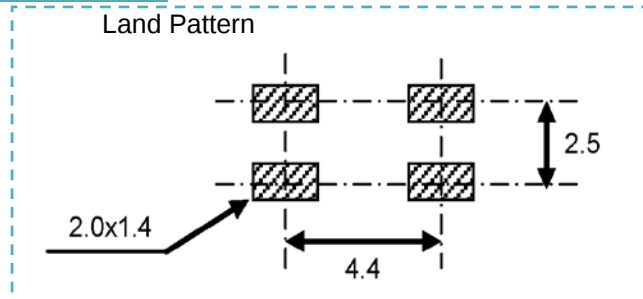
| Pin | Connect |
|-----|---------|
| 1   | Xtal    |
| 2   | GND     |
| 3   | Xtal    |
| 4   | GND     |

### Standard Parameters

| Parameter                         | Specifications                                  |
|-----------------------------------|-------------------------------------------------|
| Frequency Range                   | 8.000MHz ~ 48.000MHz                            |
| Vibration Mode                    | Fundamental                                     |
| Frequency Tolerance @25°C         | $\pm 30\text{ppm}$ ( $\pm 10\text{ppm}$ option) |
| Frequency Stability vs Temp Range | $\pm 30\text{ppm}$ ( $\pm 10\text{ppm}$ option) |
| Load Capacitance (pF)             | 8 ~ 32pF or Series                              |
| Equivalent Series Resistance      |                                                 |
| 8.0 ~ 12 MHz                      | 80Ω Max.                                        |
| 10 ~ 12 MHz                       | 70Ω Max.                                        |
| 12 ~ 20 MHz                       | 60 Ω Max                                        |
| 20 ~ 28 MHz                       | 50 Ω Max                                        |
| 28 ~ 48 MHz                       | 40 Ω Max                                        |
| Drive Level                       | 10μW                                            |
| Operating Temp. Range             | -20 ~ +70 °C or specify                         |
| Storage Temp. Range               | -40 ~ 125 °C                                    |



### Land Pattern



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