

■ Features

- 2.5 x 2.0 x 0.6 MAX. mm of surface mounted quartz crystal units.
- Excellent reliability characteristics such as heat and mechanical shock.
- Pb-free and satisfy RoHs requirements.
- Reflow soldering is available.

■ Applications

Digital Electronics, Consumer Products, Mobile Communications, Bluetooth, Wireless LAN and Automotive

■ Specifications

Frequency range	12~54 MHz
Overtone Order	Fundamental
Frequency tolerance at 25°C	±10, ±15, ±20, ±30, ±50 ppm
Operating temperature range and frequency stability	See Table 1
Equivalent series resistance	See Table 2
Shunt capacitance	3 pF Max or specify
Load capacitance	8, 16, 20 pF or specify
Drive level (Max.)	10, 100, 200 μW or specify
Insulation resistance	500MΩ Min. at DC 100V
Aging at 25°C	±3 ppm / year Max
Storage temperature range	-40 ~ +85 °C or -40 ~ +125 °C
Measure instrument	S&A 250B system with PI circuit

■ Table 1: Operating temperature range and frequency stability

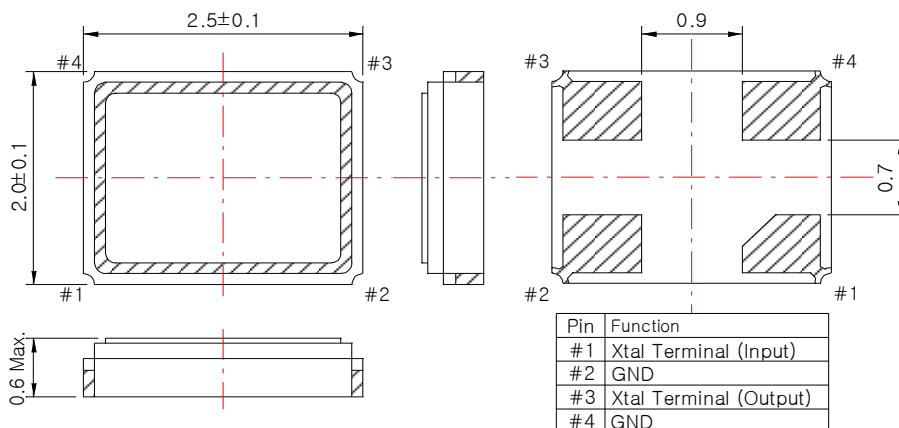
Temp	ppm				
	±5	±10	±15	±20	±50
0~+50 °C	●	●	●	●	●
-10~+60 °C		●	●	●	●
-20~+70 °C		●	●	●	●
-30~+85 °C			●	●	●
-40~+85 °C				●	●
-40~+125 °C					●

■ Table 2: Equivalent series resistance

Frequency (MHz)	Overtone Order	ESR (Ω MAX)
12~16	Fundamental	100
16~20	Fundamental	80
20~30	Fundamental	60
30~54	Fundamental	50

The mark “●” denotes our achieved level

■ Dimensions (unit: mm)



■ Land pattern (unit: mm)

