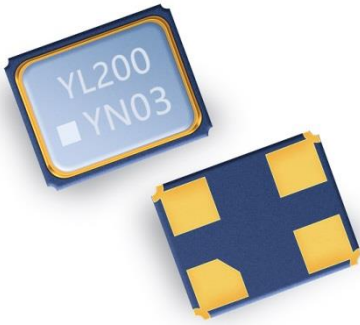


1S Series



■ Features

- 1.6 x 1.2 x 0.35 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,

■ Specifications

Frequency range	20~60 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	500 MΩ 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

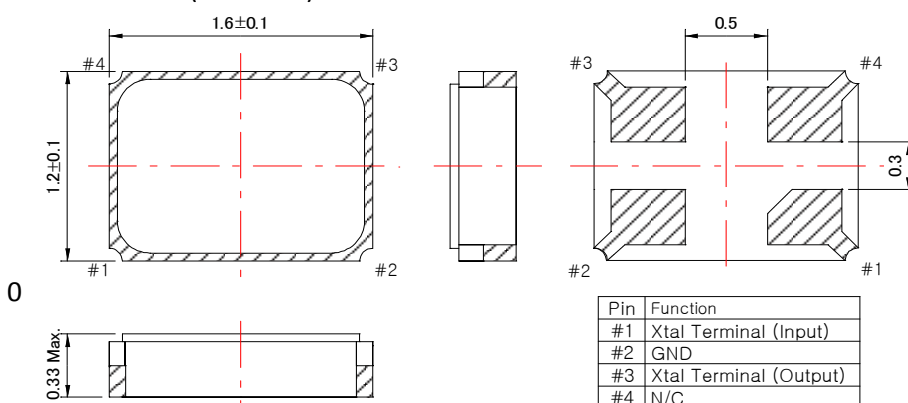
Temp \ ppm	ppm				
	±5	±10	±15	±20	±50
0~+ 50 °C	●	●	●	●	●
- 10~+ 60 °C		●	●	●	●
- 20~+ 70 °C		●	●	●	●
- 30~+ 85 °C			●	●	●
- 40~+ 85 °C				●	●
- 40~+ 125 °C					●

■ Table 2: Equivalent series resistance

Frequency (MHz)	Overtone Order	ESR (Ω MAX)
20~26	Fundamental	150
26~32	Fundamental	80
32~60	Fundamental	60

The mark “●” denotes our achieved level

■ Dimensions (unit: mm)



■ Land pattern (unit: mm)

