

Quartz Crystal Units

N11S

[1.2×1.0×0.30 mm]

N11

[1.6×1.2×0.35 mm]

N21

[2.0×1.6×0.50 mm]

Surface Mount Crystals

Oscillation Mode

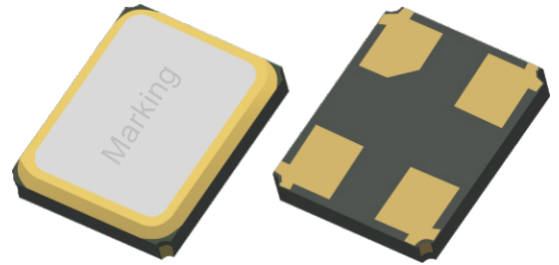
Fundamental

Frequency Range

16MHz~96MHz

Features

- Ultra smallest size SMD crystal units with 1.2×1.0 (1210), 1.6×1.2 (1612), 2.0×1.6 (2016).
- The entire package can be grounded via the top metal lid and the bottom pads
- Small footprint. Ideal for space constrained applications
- Exhibits extremely low aging with a high shock & vibration resistance
- Applications: Smart phone, IoT, Wireless communications, Bluetooth, Mobile communications, etc.



Standard Specifications

Item / Type	N11S (1.2×1.0×0.30 mm)	N11 (1.6×1.2×0.35 mm)	N21 (2.0×1.6×0.50 mm)
Frequency Range	24~54 MHz (Fund.)	24~60 MHz (Fund.)	16~96 MHz (Fund.)
Load Capacitance	6pF~32pF, or specify		
Drive Level	10 µW typical (200 µW max.)		
Frequency Tolerance (at 25°C)	± 10ppm, ±20ppm or ±30ppm (max.)		
Aging	±3ppm / Year (max.)		
Storage Temperature Range	-55°C~+125°C		

ESR (Equivalent Series Resistance)

N11S (1.2×1.0×0.30 mm)		N11 (1.6×1.2×0.35 mm)		N21 (2.0×1.6×0.50 mm)	
Frequency Range	E.S.R	Frequency Range	E.S.R	Frequency Range	E.S.R
24~27.12MHz	150 Ω max.	24~30 MHz	100 Ω max.	16~19.2 MHz	150 Ω max.
27.12~38.4MHz	100 Ω max.	30~60 MHz	80 Ω max.	19.2~30 MHz	100 Ω max.
38.4~54MHz	60 Ω max.			30~60MHz	80 Ω max.
				60~96 MHz	60 Ω max.

Frequency stability Vs Operating temperature range

ppm Temp. (°C)	±5	±10	±15	±20	±25	±30
-10~+60	▲	○	○	○	○	○
-20~+70	×	○	○	○	○	○
-40~+85	×	×	○	○	○	○

▲: Conditional
○: Available
×: Not available

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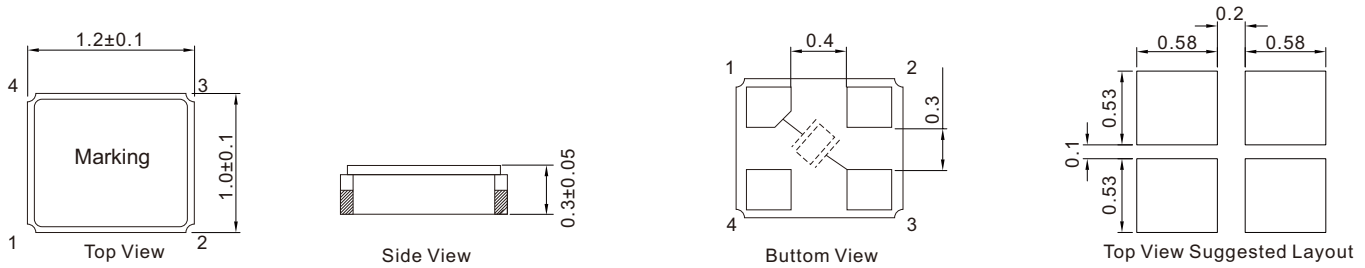
Fundamental

Frequency Range

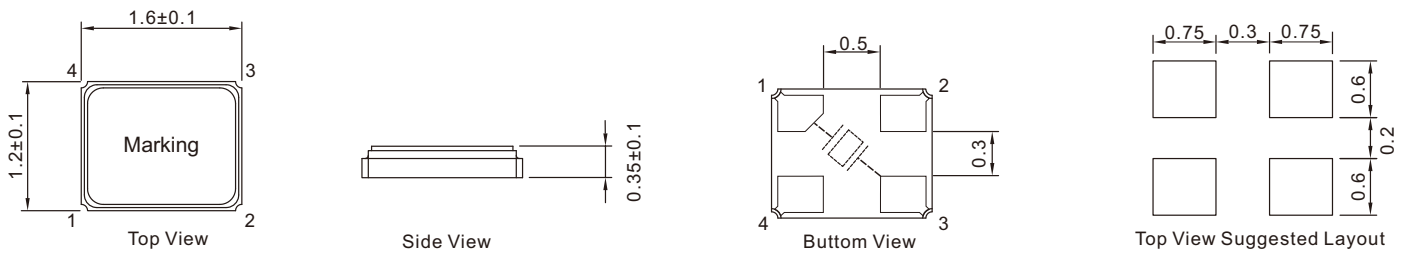
16MHz~96MHz

Outline Dimensions (Unit: mm)

N11S (1.2×1.0×0.30 mm)



N11 (1.6×1.2×0.35 mm)



N21 (2.0×1.6×0.50 mm)

