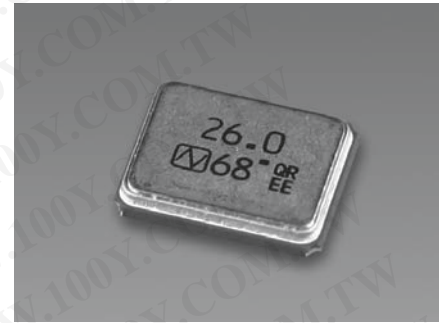


NX3225SA For OA / AV / Short-range Wireless

■ Features

A small surface-mount type crystal unit, especially suited for small-sizing requirements.

- Ultra compact and thin. (3.2 × 2.5 × 0.55mm typ.)
- Excellent environmental characteristics, including heat and shock resistance.
- Excellent electrical performance, ideal for OA (office automation), AV (audiovisual), Bluetooth and Wireless LAN applications.
- Lead-free. Meets the requirements for re-flow profiling using lead-free solder.



Pb Free

RoHS Compliant
Directive 2002/95/EC

■ Specifications

| Item | Model | NX3225SA |
|---|-------|------------------------|
| Frequency Range | | 12 to 54MHz |
| Overtone Order | | Fundamental |
| Frequency Tolerance (25 ±3°C) | | ±15 × 10 ⁻⁶ |
| Temperature Characteristics (with reference to +25°C) | | ±15 × 10 ⁻⁶ |
| Operating Temperature Range | | -10 to +75°C |
| Equivalent Series Resistance | | Refer to *1 |
| Drive Level | | 10μW(Max:200μW) |
| Load Capacitance | | 8pF |

The above specifications are standard for this NDK product.

Custom-made specifications such as load capacitance and temperature characteristics are also available.

Please contact NDK sales with your enquiries.

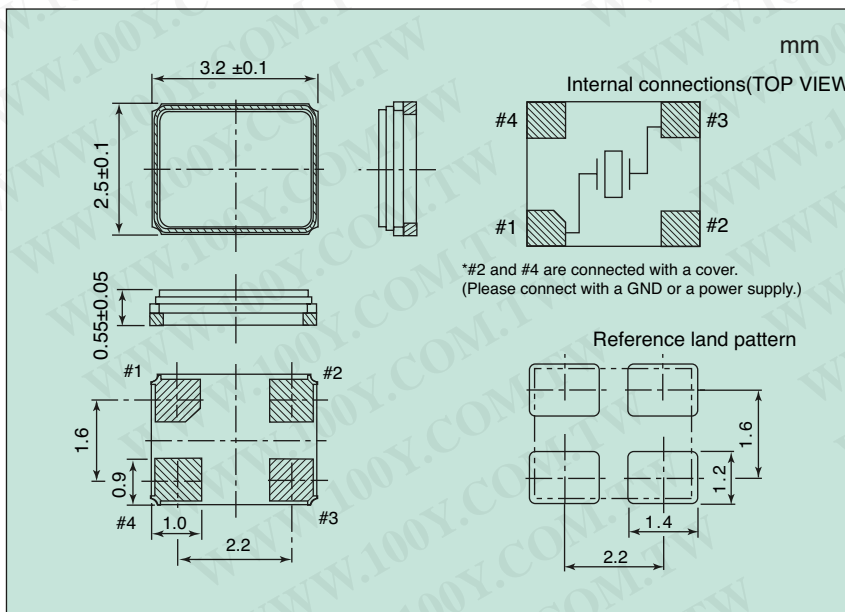
■ How to Specify an Order

When ordering our products, specify them with an "Ordering Code" that consists of the following :

Model name - Frequency (Max : 9 digits) M - Number for specifying an order Example NX3225SA-12.000M-STD-CSR-3

If you have any queries concerning our standard frequencies and numbers for specifying orders, please contact our sales representatives or visit our homepage (<http://www.ndk.com/>).

■ Dimensions



*1 Equivalent Series Resistance

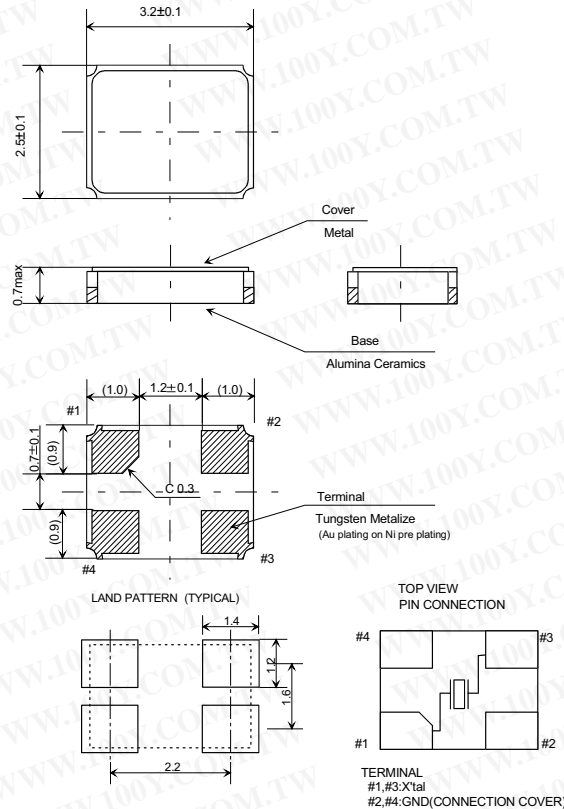
| Frequency (MHz) (Range) | Equivalent Series Resistance max.[Ω] |
|-------------------------|--------------------------------------|
| 12 to 13 | 120 |
| 13 to 16 | 100 |
| 16 to 20 | 80 |
| 20 to 30 | 70 |
| 30 to 54 | 50 |

勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-34970699
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)

Specification of Crystal Unit

| | | |
|-------|--------------------------------------|--|
| 1 | NDK PART NUMBER | NX3225SA (STD-CSR-1) |
| 5 | Type | NX3225SA |
| 6 | Electrical characteristics | |
| 6.1 | Nominal frequency(F0) | * ATTACHED SHEETS 4 |
| 6.2 | Overtone order | Fundamental |
| 6.3 | Adjustment tolerance | $\pm 15 \times 10^{-6}$ max. (+25 °C) |
| 6.4 | Tolerance over the temperature range | $\pm 15 \times 10^{-6}$ max. (-10~+70 °C) The reference temperature shall be +25 °C. |
| 6.5 | Equivalent resistance (R1) | *ATTACHED SHEETS 4 |
| 6.6 | Shunt Capacitance (C0) | NA |
| 6.7 | Motional Capacitance (C1) | 200 μ W max. |
| 7 | Measurement circuit | |
| 7.2 | Frequency measurement | |
| 7.1.1 | Measuring instrument | π circuit |
| 7.1.2 | Load capacitance(CL) | 8 pF |
| 7.1.3 | Level of drive | 50 μ W |
| 7.2 | Equivalent resistance measurement | |
| 7.2.1 | Measuring instrument | π circuit |
| 7.2.2 | Load capacitance(CL) | Series |
| 7.2.3 | Level of drive | 50 μ W |
| 8 | Dimension | |

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| Frequency(MHz) | CI(ESR) |
|----------------|---------|
| 12 | 120 ohm |
| 14.31818 | 100 ohm |
| 16 | 80 ohm |
| 20 | 70 ohm |
| 22 | 70 ohm |
| 24 | 70 ohm |
| 24.576 | 70 ohm |
| 26 | 70 ohm |
| 27 | 70 ohm |
| 32 | 50 ohm |
| 40 | 50 ohm |
| 44 | 50 ohm |

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