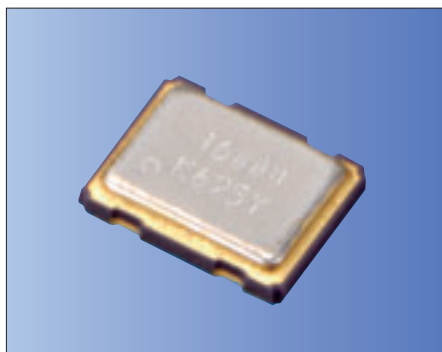




3.2×2.5mm for Automotive



RoHS Compliant

## Features

- Crystal unit for automotive electronics
- Improved solderability
- Improved mounting stability with 4 terminals
- Improved anti-noise performance with GND terminal
- Ceramic package
- Small and low profile
- Improved rust prevention performance
- Reflow compatible
- Highly reliable solder junction (3000 heat cycles -40 to +125°C)
- AEC-Q200 qualified

## Applications

- ECU
- TPMS
- High-Speed Automotive Network

## How to Order

CX3225SA 12000 D0 P T V CC

① ② ③ ④ ⑤ ⑥ ⑦

- ① Series ② Frequency  
③ Load Capacitance ④ Frequency Tolerance

D0 8 pF P  $\pm 50 \times 10^{-6}$

⑤ Operating Temp. Range ⑥ Frequency Temp. Stability

TV -40 to +150°C  $\pm 150 \times 10^{-6}$

⑦ Individual Specification  
(STD Standard is "CC")

Packaging (Tape & Reel 3000 pcs./ reel)

## Specifications

| Item                            | Symbol           | Specification | Units             | Remarks                                       |
|---------------------------------|------------------|---------------|-------------------|-----------------------------------------------|
| Frequency Range                 | f <sub>nom</sub> | 8000 to 54000 | kHz               |                                               |
| Overtone Order                  | OT               | Fundamental   | —                 |                                               |
| Load Capacitance                | CL               | 8             | pF                | Please contact us for other Load Capacitance. |
| Frequency Tolerance             | f <sub>tol</sub> | ±15           | ×10 <sup>-6</sup> | 25°C±3°C                                      |
| Motional Series Resistance      | R1               | Table 1       | ohm               |                                               |
| Drive Level                     | DL               | Table 2       | μW                |                                               |
| Operating Temp. Range           | T <sub>use</sub> | -40 to +150   | °C                |                                               |
| Storage Temp. Range             | T <sub>stg</sub> | -40 to +150   | °C                |                                               |
| Frequency Temp. Characteristics | f <sub>tem</sub> | ±150          | ×10 <sup>-6</sup> | Freq. deviation from the value at 25°C        |

Please contact us for other specifications.

Table1 Motional Series Resistance

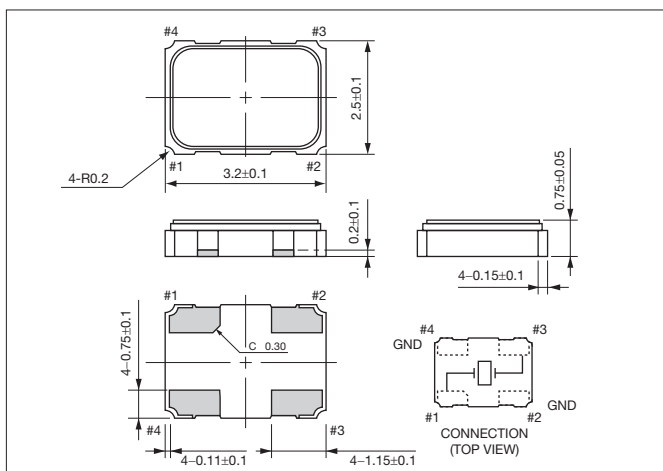
| Frequency Range                  | Motional Series Resistance |
|----------------------------------|----------------------------|
| 8000≤f <sub>nom</sub> < 9800kHz  | 500Ω max.                  |
| 9800≤f <sub>nom</sub> <13560kHz  | 200Ω max.                  |
| 13560≤f <sub>nom</sub> <16000kHz | 100Ω max.                  |
| 16000≤f <sub>nom</sub> <20000kHz | 60Ω max.                   |
| 20000≤f <sub>nom</sub> ≤54000kHz | 50Ω max.                   |

Table2 Level of Drive

| Frequency Range                 | Level of Drive    |
|---------------------------------|-------------------|
| 8000≤f <sub>nom</sub> ≤54000kHz | 10μW (200μW max.) |

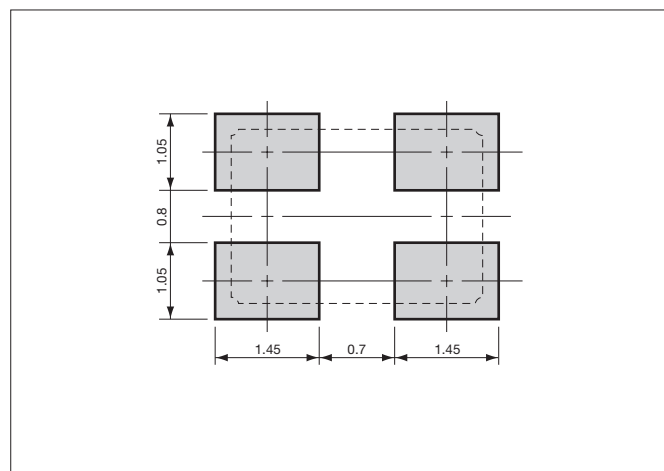
## Dimensions

(Unit: mm)



## Recommended Land Pattern

(Unit: mm)



# Mouser Electronics

Authorized Distributor

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[CX3225SA40000D0PTWCC](#)