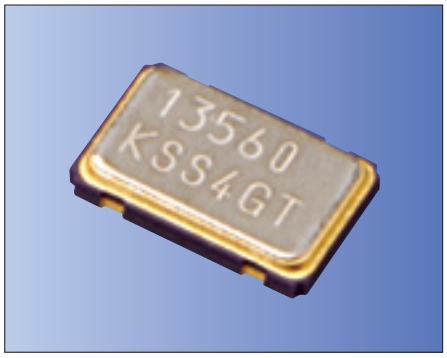
# Crystal Units
# Surface Mount Type CX5032SA

KYOCERA

5.0×3.2mm for Automotive




RoHS Compliant

## Features

- Crystal unit for automotive electronics
- Improved solderability
- Using ceramic package resulting in high reliability
- Small and low profile
- Improved rust prevention performance
- Reflow compatible
- AEC-Q200 certified

## Applications

- ECU • TPMS
- High-Speed Automotive Network (Flex Ray™ etc.)

## How to Order

CX5032SA 08000 □□ □ □ □ □□

① ② ③ ④ ⑤ ⑥ ⑦

① Series
② Frequency
③ Load Capacitance
④ Frequency Stability

| | | |
|---|---|---|
| D0 | 8 pF | — |
| F0 | 10 pF | — |
| H0 | 12 pF | Std. |

| | | |
|---|---|---|
| P | ±50×10⁻⁶ | Std. |
| Q | ±100×10⁻⁶ | — |

⑤ Operating Temp. Range ⑥ Frequency Temp. Stability

| | | | |
|---|---|---|---|
| SV | −40 to +125°C | ±150×10⁻⁶ | — |
| TW | −40 to +150°C | ±200×10⁻⁶ | Std. |

⑦ Individual Specification

Packaging (Tape & Reel 5000/ 1000 pcs./ reel)

## Specifications

| Item | Symbol | Specification | Units | Remarks |
|---|---|---|---|---|
| Frequency Range | $f_{nom}$ | 8000 to 40000 | kHz | |
| Overtone Order | OT | Fundamental | — | |
| Load Capacitance | CL | 12 | pF | |
| Frequency Stability | $f_{tol}$ | ±50 | ×10⁻⁶ | 25°C±3°C |
| Motional Series Resistance | R1 | Table 1 | ohm | |
| Drive Level | DL | Table 2 | µW | |
| Operating Temp. Range | $T_{use}$ | −40 to +150 | °C | |
| Storage Temp. Range | $T_{stg}$ | −40 to +150 | °C | |
| Frequency Temp. Characteristics | $f_{tem}$ | ±200 | ×10⁻⁶ | Freq. deviation from the value at 25°C |

• Please contact us for other specifications.

Typical Frequencies and Part Numbers

| Frequency (kHz) | Part Number |
|---|---|
| 8000.000 | CX5032SA08000H0PTWZ1 |
| 9843.750 | CX5032SA09843H0PTWZ1 |
| 10000.000 | CX5032SA10000H0PTWZ1 |
| 12000.000 | CX5032SA12000H0PTWZ1 |
| 13560.000 | CX5032SA13560H0PTWZ1 |
| 15000.000 | CX5032SA15000H0PTWZ1 |
| 16000.000 | CX5032SA16000H0PTWZ1 |
| 18000.000 | CX5032SA18000H0PTWZ1 |
| 20000.000 | CX5032SA20000H0PTWZ1 |
| 24000.000 | CX5032SA24000H0PTWZ1 |
| 25000.000 | CX5032SA25000H0PTWZ1 |

## Table1 Motional Series Resistance

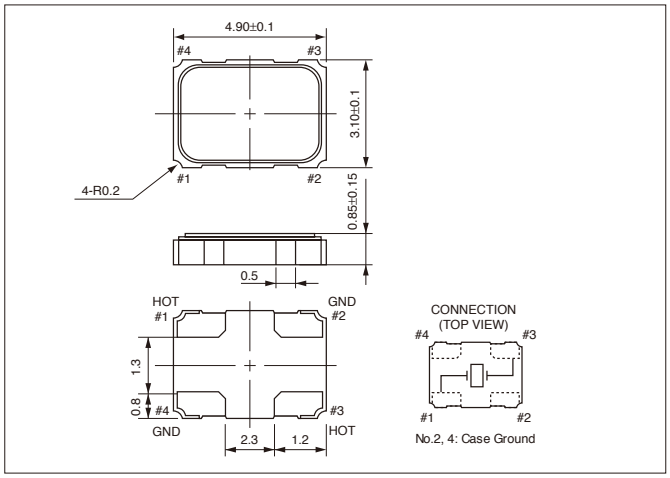
| Frequency Range | Motional Series Resistance |
|---|---|
| 8000 to 8999kHz | 200Ω max. |
| 9000 to 11999kHz | 150Ω max. |
| 12000 to 19999kHz | 100Ω max. |
| 20000 to 40000kHz | 50Ω max. |

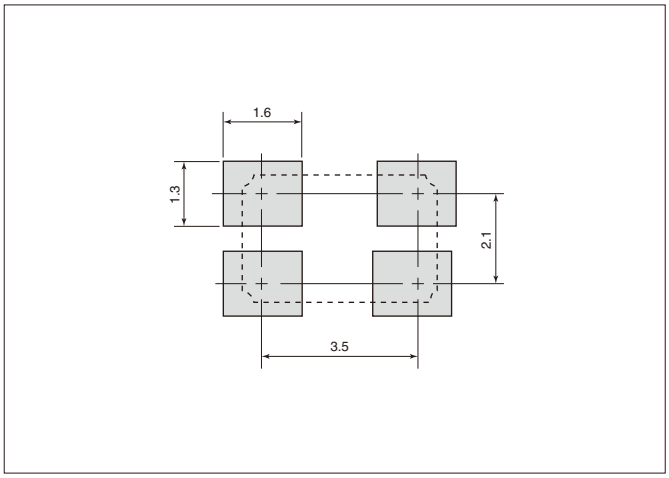
## Table2 Level of Drive

| Frequency Range | Level of Drive |
|---|---|
| 8000 to 40000kHz | 10µW (100µW max.) |

## Dimensions

(Unit: mm)




## Recommended Land Pattern

(Unit: mm)