

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
- Using ceramic package resulting in high reliability
- 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 (Flex Ray™ etc.)

How to Order

CX3225SA 12000 ☐ ☐ ☐ ☐ ☐ ☐

- ① Series ② Frequency
③ Load Capacitance ④ Frequency Tolerance
- | | | | |
|----|-------|---|--------------------------|
| D0 | 8 pF | K | $\pm 30 \times 10^{-6}$ |
| F0 | 10 pF | P | $\pm 50 \times 10^{-6}$ |
| | | Q | $\pm 100 \times 10^{-6}$ |
- ⑤ Operating Temp. Range ⑥ Frequency Temp. Stability
- | | | |
|----|---------------|--------------------------|
| SV | -40 to +125°C | $\pm 150 \times 10^{-6}$ |
| TW | -40 to +150°C | $\pm 200 \times 10^{-6}$ |
- ⑦ Individual Specification

Packaging (Tape & Reel 3000/ 1000 pcs./ reel)

Specifications

Item	Symbol	Specification	Units	Remarks
Frequency Range	f _{nom}	8000 to 54000	kHz	
Overtone Order	OT	Fundamental	—	
Load Capacitance	CL	8	pF	
Frequency Tolerance	f _{tol}	±50	$\times 10^{-6}$	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	$\times 10^{-6}$	Freq. deviation from the value at 25°C

• Please contact us for other specifications.

Table1 Motional Series Resistance

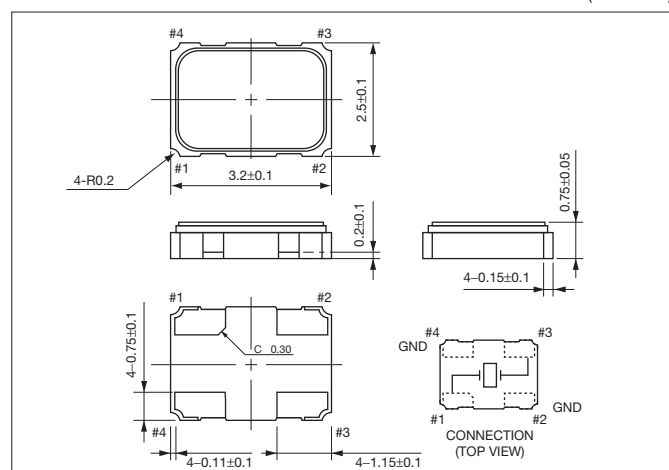
Frequency Range	Motional Series Resistance
8000≤f _{nom} < 9800kHz	500Ω max.
9800≤f _{nom} <13560kHz	200Ω max.
13560≤f _{nom} <16000kHz	100Ω max.
16000≤f _{nom} <20000kHz	60Ω max.
20000≤f _{nom} <54000kHz	50Ω max.

Table2 Level of Drive

Frequency Range	Level of Drive
8000≤f _{nom} ≤54000kHz	10μW (200μW max.)

Dimensions

(Unit: mm)



Recommended Land Pattern

(Unit: mm)

