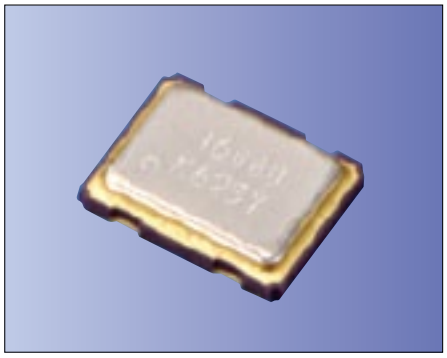
Crystal Units
Surface Mount Type CX3225SA

KYOCERA

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 ② ③ ④ ⑤ ⑥ ⑦

① Series
② Frequency
③ Load Capacitance

D0	8 pF	Std.
F0	10 pF	—

④ Frequency Stability

K	$\pm30\times10^{-6}$	—
P	$\pm50\times10^{-6}$	Std.
Q	$\pm100\times10^{-6}$	—

⑤ Operating Temp. Range ⑥ Frequency Temp. Stability

SV	–40 to +125°C	$\pm150\times10^{-6}$	—
TW	–40 to +150°C	$\pm200\times10^{-6}$	Std.

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 Stability	f_{tol}	±50	$\times10^{-6}$	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	$\times10^{-6}$	Freq. deviation from the value at 25°C

• Please contact us for other specifications.

Typical Frequencies and Part Numbers

Frequency (kHz)	Part Number
9843.750	CX3225SA09843D0PTWZ1
10000.000	CX3225SA10000D0PTWZ1
12000.000	CX3225SA12000D0PTWZ1
12800.000	CX3225SA12800D0PTWZ1
13560.000	CX3225SA13560D0PTWZ1
16000.000	CX3225SA16000D0PTWZ1
19200.000	CX3225SA19200D0PTWZ1
20000.000	CX3225SA20000D0PTWZ1
24000.000	CX3225SA24000D0PTWZ1
26000.000	CX3225SA26000D0PTWZ1
28636.360	CX3225SA28636D0PTWZ1
32000.000	CX3225SA32000D0PTWZ1
40000.000	CX3225SA40000D0PTWZ1

Table1 Motional Series Resistance

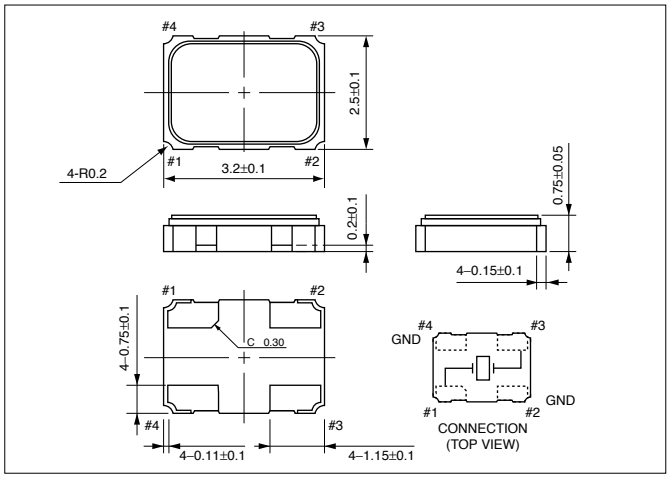
Frequency Range	Motional Series Resistance
8000 to 9799kHz	500Ω max.
9800 to 14999kHz	200Ω max.
15000 to 15999kHz	100Ω max.
16000 to 19999kHz	60Ω max.
20000 to 54000kHz	50Ω max.

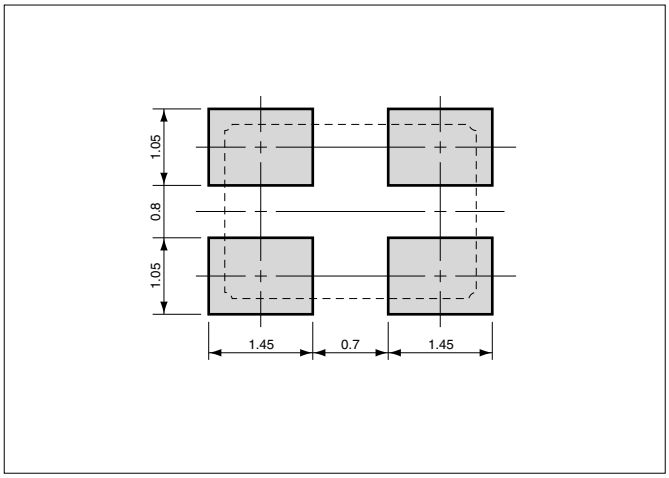
Table2 Level of Drive

Frequency Range	Level of Drive
8000 to 54000kHz	10µW (200µW max.)

Dimensions

(Unit: mm)



Recommended Land Pattern

(Unit: mm)