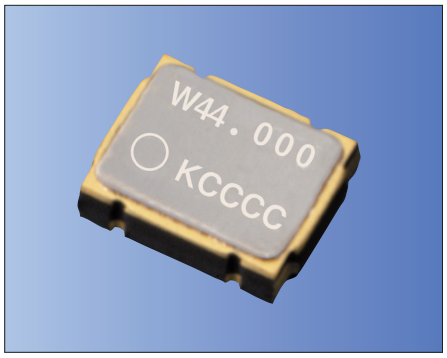
# Clock Oscillators Surface Mount Type
# KC3225A-C3 Series

CMOS/ 3.3V/ 3.2×2.5mm




RoHS Compliant

## Features

- Miniature ceramic package
- Highly reliable with seam welding
- CMOS output
- Supply voltage Vcc=3.3V
- ±25×10$^{-6}$ available

## Table 1

| Freq. Tol. Code | Freq. Tol. × 10$^{-6}$ | Operating Temperature Range (°C) | Note |
|---|---|---|---|
| 0 | ± 50 | −10 to +70 | Standard specifications |
| S | ± 30 | | Please contact us for available frequencies. |
| U | ± 25 | | |
| F | ±100 | −40 to +85 | |
| G | ± 50 | | |
| 6 | ± 50 | −40 to +105 | |

## How to Order

KC3225A 25.0000 C 3 □ E 00
① ② ③ ④ ⑤ ⑥ ⑦

①Series
②Output Frequency
③Output Type (CMOS)
④Supply Voltage (3.3V)
⑤Frequency Tolerance (See Table 1)
⑥Symmetry/ INH Function (45/ 55%)
⑦Individual Specification
(STD Specification is "00".)

Packaging (Tape & Reel 2000 pcs./ reel)

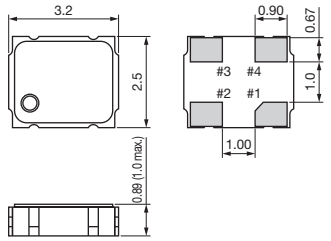
## Specifications

| Item | Symbol | Conditions | | Min. | Max. | Unit |
|---|---|---|---|---|---|---|
| Output Frequency Range | fo | | | 1.5 | 125 | MHz |
| Frequency Tolerance | f_tol | Initial tolerance, Operating temperature range, Rated power supply voltage change, Load change, Aging (1 year @25°C), Shock and vibration | Temp.: −40 to +85°C | −100 | +100 | ×10$^{-6}$ |
| | | | Temp.: −10 to +70°C/ −40 to +85°C/ −40 to +105°C | −50 | +50 | |
| | | | Temp.: −10 to +70°C | −30 | +30 | |
| | | | Temp.: −10 to +70°C | −25 | +25 | |
| Storage Temperature Range | T_stg | | | −55 | +125 | °C |
| Operating Temperature Range | T_use | Standard Specifications | | −10 | +70 | °C |
| | | Extend (Option) | | −40 | +85 | |
| | | | | −40 | +105 | |
| Max. Supply Voltage | — | | | −0.5 | +7.0 | V |
| Supply Voltage | Vcc | Freq. Tol. Code: 0, S, F | | +2.97 | +3.63 | V |
| | | Freq. Tol. Code: U, G, 6 | | +3.14 | +3.46 | |
| Current Consumption (Maximum Loaded) | Icc | 1.5≤fo≤26MHz | | — | 6 | mA |
| | | 26<fo≤50MHz | | — | 8 | |
| | | 50<fo≤67.5MHz | | — | 12 | |
| | | 67.5<fo≤95MHz | | — | 20 | |
| | | 95<fo≤125MHz | | — | 25 | |
| Stand-by Current | I_std | | | — | 10 | µA |
| Symmetry | SYM | @50% Vcc | | 45 | 55 | % |
| Rise/ Fall Time (10% Vcc to 90% Vcc Maximum Loaded) | Tr/ Tf | 1.5≤fo≤67.5MHz | | — | 5 | ns |
| | | 67.5<fo≤125MHz | | — | 3 | |
| Low Level Output Voltage | VOL | IOL=4mA | | — | 10% Vcc | V |
| High Level Output Voltage | VOH | IOH=−4mA | | 90% Vcc | — | V |
| CMOS Load | L_CMOS | CMOS Output | | — | 15 | pF |
| Input Voltage Range | VIN | | | 0 | Vcc | V |
| Low Level Input Voltage | VIL | | | — | 30% Vcc | V |
| High Level Input Voltage | VIH | | | 70% Vcc | — | V |
| Disable Time | t_dis | | | — | 150 | ns |
| Enable Time | t_ena | | | — | 5 | ms |
| Start-up Time | t_str | @Minimum operating voltage to be 0 sec. | | — | 10 | ms |
| 1 Sigma Jitter | JSigma | Measured with Wavecrest SIA-3000 | 1.5≤fo≤60MHz | — | 8 | ps |
| | | | 60<fo≤125MHz | — | 5 | |
| Peak to Peak Jitter | JPK-PK | Measured with Wavecrest SIA-3000 | 1.5≤fo≤60MHz | — | 80 | ps |
| | | | 60<fo≤125MHz | — | 40 | |

Note: All electrical characteristics are defined at the maximum load and operating temperature range.
Please contact us for inquiry about operating temperature range, available frequencies and other conditions.

## Dimensions

(Unit: mm)



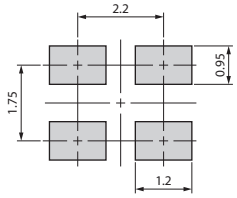

Plating: Ni+Au
Tolerance: ±0.1

| Pad Connections | |
|---|---|
| #1 | INH |
| #2 | Case GND |
| #3 | Output |
| #4 | Vcc |

| INH Function | |
|---|---|
| Pad1 | Pad3 (Output) |
| Open | Active |
| "H" Level | Active |
| "L" Level | High Z (No-Oscillation) |

## Recommended Land Pattern

(Unit: mm)




Note: 0.01µF capacitor between Vcc and GND is recommended for bypass purpose.

As of December 2019

Crystal Oscillators

Discontinued Products