



CMOS/ 2.5V/ 7.0×5.0mm



RoHS Compliant

**Features**

- Miniature ceramic package
- Highly reliable with seam welding
- CMOS output
- Supply voltage Vcc=2.5V  
Lower voltage available
- ±25×10<sup>-6</sup>, ±20×10<sup>-6</sup> available

**Table 1**

| Stability Code | × 10 <sup>-6</sup> | Operating Temperature Range (°C) | Note   |
|----------------|--------------------|----------------------------------|--|
| 0              | ± 50               | -10 to +70                       | Standard specifications                      |
| S              | ± 30               |                                  |  |
| U              | ± 25               |                                  |  |
| W              | ± 20               |                                  |  |
| F              | ±100               | -40 to +85                       | Please contact us for available frequencies. |
| G              | ± 50               |                                  |  |
| 6              | ± 50               | -40 to +105                      |  |

**How to Order**

**KC7050A 25.0000 C 2 □ E 00**  
① ② ③ ④ ⑤ ⑥ ⑦

- ①Series
- ②Output Frequency
- ③Output Type (CMOS)
- ④Supply Voltage (2.5V)
- ⑤Frequency Tolerance (See Table 1)
- ⑥Symmetry/ INH Function (45/ 55%)
- ⑦Individual Specification (STD Specification is "00")

Packaging (Tape & Reel 1000 pcs./ reel)

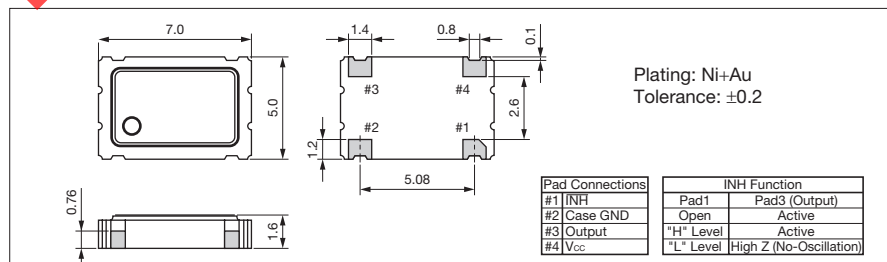
**Specifications**

| Item  | Symbol             | Conditions  | Min.   | Max.                | Unit |                   |
|---|--------------------|---|--|---------------------|------|-------------------|
| Output Frequency Range  | f <sub>o</sub>     |   | 1.8  | 125                 | MHz  |                   |
| Frequency Tolerance   | f <sub>tol</sub>   | 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 <sup>-6</sup> |
|   |                    |   | 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  |                   |
|   |                    |   | Temp.: -10 to +70°C                              | -20                 | +20  |                   |
| Storage Temperature Range   | T <sub>stg</sub>   |   | -55  | +125                | °C   |                   |
| Operating Temperature Range   | T <sub>use</sub>   | Standard Specifications   | -10  | +70                 | °C   |                   |
|   |                    | Extend (Option)   | -40  | +85                 |      |                   |
| Max. Supply Voltage   | —                  |   | -0.5   | +7.0                | V    |                   |
| Supply Voltage  | V <sub>cc</sub>    | Freq. Tol. Code: 0, S, F  | +2.25  | +2.75               | V    |                   |
|   |                    | Freq. Tol. Code: U, G, 6  | +2.38  | +2.62               |      |                   |
|   |                    | Freq. Tol. Code: W  | +2.43  | +2.57               |      |                   |
| Current Consumption (Maximum Loaded)  | I <sub>cc</sub>    | 1.8≤f <sub>o</sub> ≤20MHz   | —  | 5                   | mA   |                   |
|   |                    | 20<f <sub>o</sub> ≤40MHz  | —  | 10                  |      |                   |
|   |                    | 40<f <sub>o</sub> ≤60MHz  | —  | 15                  |      |                   |
|   |                    | 60<f <sub>o</sub> ≤85MHz  | —  | 20                  |      |                   |
|   |                    | 85<f <sub>o</sub> ≤100MHz   | —  | 22                  |      |                   |
|   |                    | 100<f <sub>o</sub> ≤125MHz  | —  | 27                  |      |                   |
| Stand-by Current  | I <sub>std</sub>   |   | —  | 10                  | μA   |                   |
| Symmetry  | SYM                | @50% V <sub>cc</sub>  | 45   | 55                  | %    |                   |
| Rise/ Fall Time (10% V <sub>cc</sub> to 90% V <sub>cc</sub> Maximum Loaded) | Tr/ Tf             | 1.8≤f <sub>o</sub> ≤40MHz   | —  | 7                   | ns   |                   |
|   |                    | 40<f <sub>o</sub> ≤85MHz  | —  | 4                   |      |                   |
|   |                    | 85<f <sub>o</sub> ≤125MHz   | —  | 3                   |      |                   |
| Low Level Output Voltage  | V <sub>OL</sub>    | I <sub>OL</sub> =4mA/ 8mA (40MHz<f <sub>o</sub> )   | —  | 10% V <sub>cc</sub> | V    |                   |
| High Level Output Voltage   | V <sub>OH</sub>    | I <sub>OH</sub> =-4mA/ -8mA (40MHz<f <sub>o</sub> )   | 90% V <sub>cc</sub>                              | —                   | V    |                   |
| CMOS Load   | I <sub>CMOS</sub>  | CMOS Output   | —  | 15                  | pF   |                   |
| Input Voltage Range   | V <sub>IN</sub>    |   | 0  | V <sub>cc</sub>     | V    |                   |
| Low Level Input Voltage   | V <sub>IL</sub>    |   | —  | 30% V <sub>cc</sub> | V    |                   |
| High Level Input Voltage  | V <sub>IH</sub>    |   | 70% V <sub>cc</sub>                              | —                   | V    |                   |
| Disable Time  | t <sub>dis</sub>   |   | —  | 150                 | ns   |                   |
| Enable Time   | t <sub>ena</sub>   |   | —  | 5                   | ms   |                   |
| Start-up Time   | t <sub>str</sub>   | @Minimum operating voltage to be 0 sec.   | —  | 10                  | ms   |                   |
| 1 Sigma Jitter  | J <sub>sigma</sub> | Measured with Wavecrest SIA-3000  | 1.8≤f <sub>o</sub> <40MHz                        | —                   | 8    | ps                |
|   |                    |   | 40≤f <sub>o</sub> ≤100MHz                        | —                   | 5    |                   |
|   |                    |   | 100<f <sub>o</sub> ≤125MHz                       | —                   | 4    |                   |
| Peak to Peak Jitter   | J <sub>PK-PK</sub> | Measured with Wavecrest SIA-3000  | 1.8≤f <sub>o</sub> <40MHz                        | —                   | 80   | ps                |
|   |                    |   | 40≤f <sub>o</sub> <100MHz                        | —                   | 40   |                   |
|   |                    |   | 100≤f <sub>o</sub> ≤125MHz                       | —                   | 30   |                   |

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.

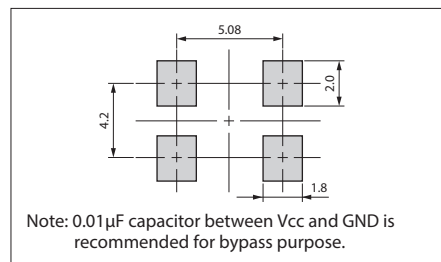
**Dimensions**

(Unit: mm)



**Recommended Land Pattern**

(Unit: mm)



As of December 2019

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