

CMOS/ 1.8V, 2.5V, 3.3V/ 5.0×3.2mm



RoHS Compliant

## Features

- Wide operating voltage range 1.6 to 3.3V
- $\pm 25 \times 10^{-6}$  available
- Highly reliable with seam welding
- Miniature ceramic package
- CMOS output

**Table 1**

| Freq. Code | Tol. $\times 10^{-6}$ | Operating Temperature Range (°C) | Note                          |
|------------|-----------------------|----------------------------------|-------------------------------|
| 0          | $\pm 50$              | -10 to +70                       | Standard specifications       |
| S          | $\pm 30$              |                                  |                               |
| U          | $\pm 25$              |                                  |                               |
| F          | $\pm 100$             | -40 to +85                       | With only certain frequencies |
| G          | $\pm 50$              |                                  |                               |
| 6          | $\pm 50$              | -40 to +105                      |                               |

## How to Order

KC5032A 100.000 C 1 0 E 00  
 ① ② ③ ④ ⑤ ⑥ ⑦

- ① Type (5.0×3.2mm SMD)
- ② Output Frequency
- ③ Output Type (CMOS)
- ④ Supply Voltage (1.8V, 2.5V, 3.3V Compatible)
- ⑤ Frequency Tolerance (See Table 1)
- ⑥ Symmetry/ INH Function (45/ 55%, Stand-by)
- ⑦ Customer Special Model Suffix (STD Specification is "00")

Packaging (Tape & Reel 1000 pcs./ reel)

## Specifications

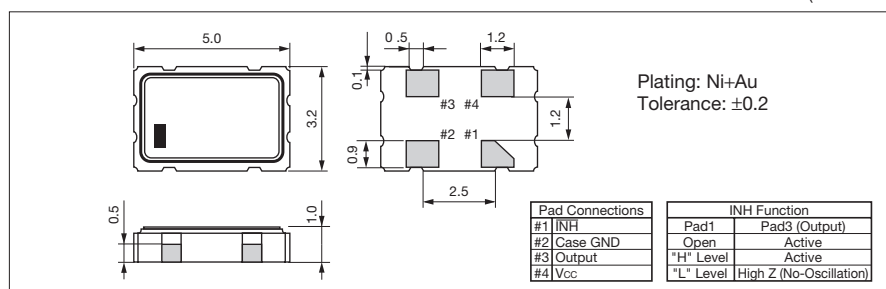
| Item                                                   | Symbol | Conditions                                                                                                                                |                                                         | Min.    | Max.    | Units             |
|--------------------------------------------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|---------|---------|-------------------|
| Output Frequency Range                                 | fo     | fo>50MHz                                                                                                                                  |                                                         | 50      | 135     | 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 | Op. Temp.: -40 to +85°C                                 | -100    | +100    | ×10 <sup>-6</sup> |
|                                                        |        |                                                                                                                                           | Op. Temp.: -10 to +70°C/<br>-40 to +85°C/ -40 to +105°C | -50     | +50     |                   |
|                                                        |        |                                                                                                                                           | Op. Temp.: -10 to +70°C                                 | -30     | +30     |                   |
|                                                        |        |                                                                                                                                           | Op. Temp.: -10 to +70°C                                 | -25     | +25     |                   |
| Storage Temperature Range                              | T_stg  |                                                                                                                                           |                                                         | -55     | +125    | °C                |
| Operating Temperature Range                            | T_use  |                                                                                                                                           |                                                         | -40     | +105    | °C                |
| Max. Supply Voltage                                    | —      |                                                                                                                                           |                                                         | -0.3    | +4.0    | V                 |
| Supply Voltage                                         | Vcc    |                                                                                                                                           |                                                         | +1.6    | +3.63   | V                 |
| Current Consumption (Loaded)<br>(1.6≤Vcc≤2.0V)         | Icc    | 50<fo≤85MHz                                                                                                                               |                                                         | —       | 10      | mA                |
|                                                        |        | 85<fo≤105MHz                                                                                                                              |                                                         | —       | 15      |                   |
|                                                        |        | 105<fo≤135MHz                                                                                                                             |                                                         | —       | 16      |                   |
| 50<fo≤85MHz                                            |        |                                                                                                                                           | —                                                       | 14      |         |                   |
| 85<fo≤105MHz                                           |        |                                                                                                                                           | —                                                       | 17      |         |                   |
| 105<fo≤135MHz                                          |        |                                                                                                                                           | —                                                       | 18      |         |                   |
| 50<fo≤85MHz                                            |        |                                                                                                                                           | —                                                       | 17      |         |                   |
| 85<fo≤105MHz                                           |        |                                                                                                                                           | —                                                       | 19      |         |                   |
| 105<fo≤135MHz                                          |        |                                                                                                                                           | —                                                       | 22      |         |                   |
| Stand-by Current                                       | I_std  |                                                                                                                                           |                                                         | —       | 10      | μA                |
| Symmetry                                               | SYM    | @50% Vcc                                                                                                                                  |                                                         | 45      | 55      | %                 |
| Rise/ Fall Time<br>(10% Vcc to 90% Vcc Maximum Loaded) | tr/ tf | 1.6≤Vcc≤2V                                                                                                                                |                                                         | —       | 3.5     | ns                |
|                                                        |        | 2<Vcc≤2.8V                                                                                                                                |                                                         | —       | 3.0     |                   |
|                                                        |        | 2.8<Vcc≤3.63V                                                                                                                             |                                                         | —       | 2.5     |                   |
| Low Level Output Voltage                               | VOL    |                                                                                                                                           |                                                         | —       | 10% Vcc | V                 |
| High Level Output Voltage                              | VOH    |                                                                                                                                           |                                                         | 90% Vcc | —       | V                 |
| Output Load                                            | L_CMOS | 1.6≤Vcc≤3.63V                                                                                                                             |                                                         | —       | 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                                                                                                          | 50<fo≤100MHz                                            | —       | 5       | ps                |
|                                                        |        |                                                                                                                                           | 100<fo≤135MHz                                           | —       | 4       |                   |
| Peak to Peak Jitter                                    | JPK-PK |                                                                                                                                           | 50<fo≤100MHz                                            | —       | 40      | ps                |
|                                                        |        |                                                                                                                                           | 100<fo≤135MHz                                           | —       | 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)

