

## K.C.C Crystal Oscillator (SO-22 Series)



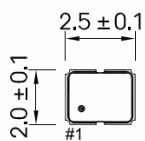
### Features & Applications

- 2.5x2.0x0.95mm Size
- Ceramic Package
- CMOS Output
- Low Power Consumption
- RoHS Compliant.

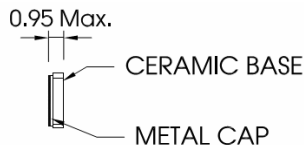
### General Specifications

| Parameter                       | SO-22 Series                      |           |            |    |
|---------------------------------|-----------------------------------|-----------|------------|----|
|                                 | SO-221                            | SO-222    | SO-223     |    |
| Input Voltage                   | 1.8V ± 5%                         | 2.8V ± 5% | 3.3V ± 10% |    |
| Frequency Range                 | 2 ~50.0 MHz                       |           |            |    |
| Frequency Stability             | A:±25, B: ±50, C: ±30, D: ±20 ppm |           |            |    |
| Operating Temperature Range     | -10 to +70°C ; -40 to +85°C       |           |            |    |
| Storage Temperature Range       | -55 to +125°C                     |           |            |    |
| Input Current<br>(mA Max.)      | 2~9.99MHz                         | 3         | 6          | 7  |
|                                 | 10~19.99MHz                       | 5         | 8          | 7  |
|                                 | 20~31.99MHz                       | 5         | 8          | 12 |
|                                 | 32~50.00MHz                       | 10        | 20         | 20 |
| Output Logic High " 1 "         | 90% VDD                           |           |            |    |
| Output Logic Low " 0 "          | 10% VDD                           |           |            |    |
| Output Symmetry                 | 40% to 60% (at 50%VDD)            |           |            |    |
| Rise and Fall Time<br>(ns Max.) | 2~9.99MHz                         | 5         | 7          | 6  |
|                                 | 10~19.99MHz                       | 5         | 7          | 6  |
|                                 | 20~31.99MHz                       | 5         | 6          | 5  |
|                                 | 32~50.00MHz                       | 5         | 6          | 5  |
| Output Load                     | 15pF typical                      |           |            |    |
| Start-Up Time                   | 10ms (Max)                        |           |            |    |
| Aging Rate                      | ±5ppm / Year Max.                 |           |            |    |

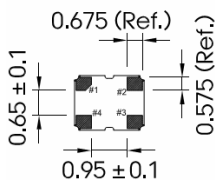
### Outline and Dimensions [Unit: mm]



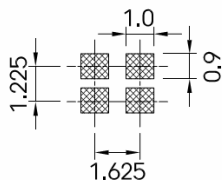
[ Top View ]



[ Side View ]



[ Bottom View ]



[ Suggested layout ]

| Pin | Connection |
|-----|------------|
| #1  | E/D        |
| #2  | Ground     |
| #3  | Output     |
| #4  | +VDD       |

### Enable/Disable Function

| E/D (#1)    | Output (#3)    |
|-------------|----------------|
| HIGH (Open) | Operating      |
| LOW         | High impedance |

### Order Part No.:

Product name: **Q 25.000M 22 3 B - G T Z**

① ② ③④⑤ ⑥⑦⑧

- ① KCC Oscillator
- ② Frequency
- ③ Size Type : SO-22=2.5x2.0x0.95mm
- ④ Input Voltage : 3=3.3V
- ⑤ Frequency Stability : B=±50ppm
- ⑥ RoHS Compliant
- ⑦ Operating temperature : T= -40°C to +85°C
- ⑧ Internal identification code