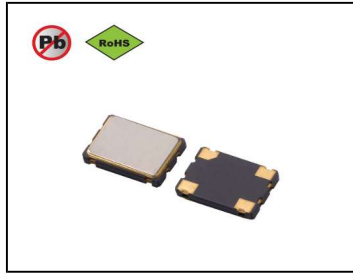


**KOS7****CLOCK OSCILLATOR****■ HCMOS SMD OSC 7.0×5.0mm**

- Miniature Ceramic Surface Mount package
- Fundamental and 3rd overtone crystal design
- Wide temperature and Low phase noise

- Applications : Consumer electronics, Industrial applications, Telecommunications, Network equipment

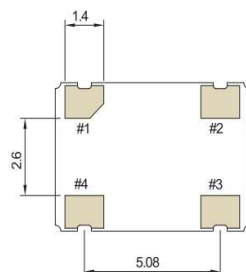
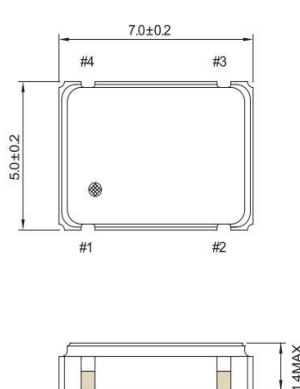
**■ Standard Specification**

|                                      |                       |                                               |            |                 |
|--------------------------------------|-----------------------|-----------------------------------------------|------------|-----------------|
| Frequency range                      |                       | 32.768kHz, 0.250MHz to 200.000MHz             |            |                 |
| Supply voltage                       |                       | 1.8V, 2.5V, 3.3V, 5.0V (0.8 to 1.5V Option)   |            |                 |
| Frequency Stability                  |                       | ±20ppm, ±25ppm, ±50ppm                        |            | ±50ppm, ±100ppm |
| Operating Temperature Range          |                       | -20 to 70℃                                    | -40 to 85℃ | -55 to 125℃     |
| Storage Temperature Range            |                       | -55 to 125℃                                   |            |                 |
| Output load condition                |                       | CMOS 15pF                                     |            |                 |
| Symmertry (Duty)                     |                       | 50% ±10% or please specify                    |            |                 |
| Output rise and fall time ( Tr /Tf ) |                       | 10ns Max (except 32.768kHz) or please specify |            |                 |
| Output high level                    |                       | 90% Vdd Min                                   |            |                 |
| Output low level                     |                       | 10% Vdd Max                                   |            |                 |
| Pin 1                                | Enable input voltage  | 70% Vdd Min or N.C                            |            |                 |
| Function                             | Disable input voltage | 30% Vdd Max                                   |            |                 |
| Oscillation start up time            |                       | 5ms Max                                       |            |                 |
| Aging (Initial first year)           |                       | ± 3ppm Max                                    |            |                 |
| Phase jitter (12KHz ~ 20MHz)         |                       | 1.0ps RMS Max or please specify               |            |                 |
| Period jitter (pk-pk)                |                       | 25ps Max                                      |            |                 |

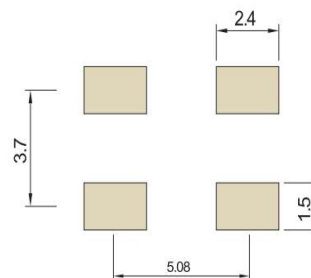
**■ Current consumption (mA Max)**

| Vdd vs Frequency | ≤ 25M | ≤ 40M | ≤ 60M | ≤ 125M |
|------------------|-------|-------|-------|--------|
| 1.8V             | 4     | 6     | 10    | 25     |
| 2.5V             | 6     | 8     | 12    | 30     |
| 3.3V             | 10    | 15    | 20    | 40     |
| 5.0V             | 15    | 20    | 30    | 50     |

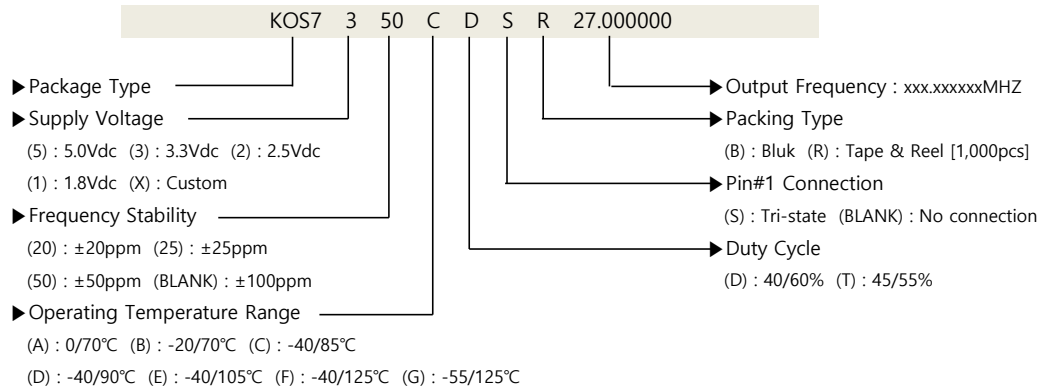
\*Please contact us for lower Current

**■ Dimensions (mm)****CONNECTION**

- #1 N.C or EN/DIS(Tri-State)  
 #2 GND  
 #3 OUTPUT  
 #4 Vdd

**• Recommended Soldering Pattern**

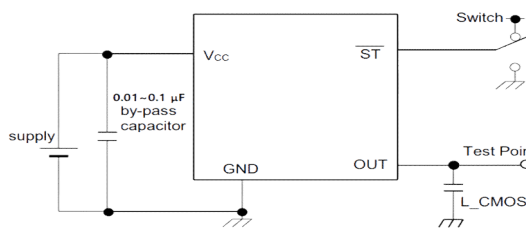
## Part Numbering Guide



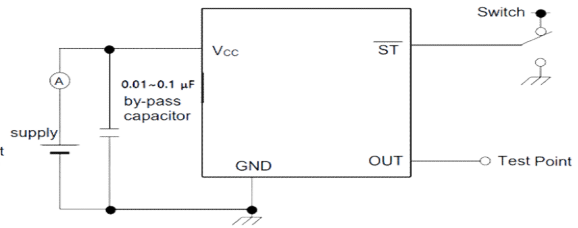
\*Please contact us for other specifications.

## Test Circuit Information

Waveform Observation

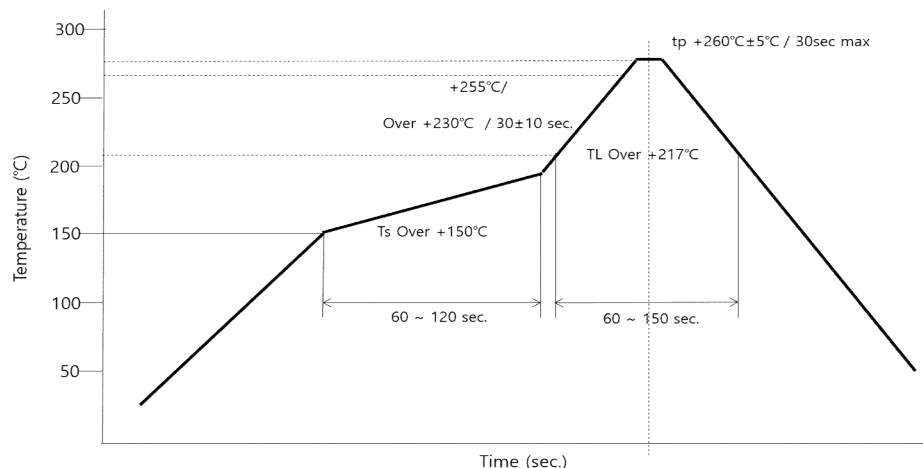


Current Consumption Test



\*Standby current test should be ST = GND.

## Recommendation reflow condition



- (1) Reflow soldering heat resistance  
 Peak Temp. : 265°C, 30sec max.  
 Heating : 230°C or higher, 40sec.  
 Preheating : 150~180°C, 120sec.  
 Reflow passage times : 2 times

- (2) Manual soldering heat resistance  
 Pressing a soldering iron of 350°C on the terminal electrode  
 Soldering touch time : 4sec.  
 Manual soldering times : 2 times