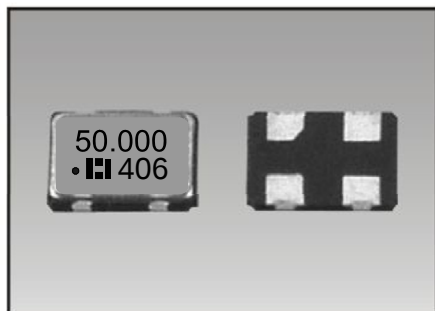


## • HXO-5 Series

## 5.0X3.2X1.3 mm

### FEATURES

- 5X3.2X1.3 Miniature Package
- Tri-State Enable/Disable
- TTL/HCMOS compatible
- Tape and Reel
- IR Re-flow
- 5.0V,3.3V,2.8V and 1.8V Option



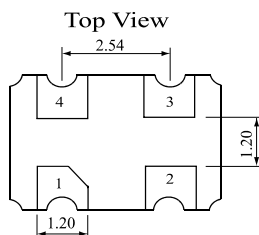
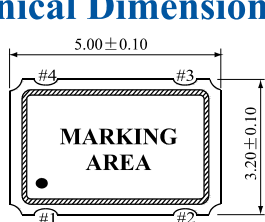
The HXO-5 series is an ultra miniature package clock oscillator with size of 5.0X3.2X1.3mm. It is mainly used in portable PC and telecommunication devices and equipment.

## Electrical Specifications

| Parameter                   |                  | Condition                              | HXO-53                                    | HXO-56      | HXO-59     | HXO-57     |
|-----------------------------|------------------|----------------------------------------|-------------------------------------------|-------------|------------|------------|
| Frequency Range             | F0               |                                        | 1MHz~100MHz                               | 1MHz~133MHz |            |            |
| Frequency Stability*        |                  | All Condition                          | ±25ppm, ±50ppm, ±100ppm                   |             |            |            |
| Operating Temperature Range | T <sub>OPR</sub> |                                        | -20℃~+70℃(-40℃~+85℃ option)               |             |            |            |
| Storage Temperature Range   | T <sub>STG</sub> |                                        | -55℃~+125℃                                |             |            |            |
| Power supply Voltage        | V <sub>DD</sub>  |                                        | 5.0V+/-10%                                | 3.3V+/-10%  | 2.8V+/-10% | 1.8V+/-10% |
| Supply Current              | I <sub>DD</sub>  | 1MHz to 9.999MHz                       | 15mA Max                                  | 8mA Max     | 7mA Max    | 6mA Max    |
|                             |                  | 10MHz to 34.999MHz                     | 20mA Max                                  | 10mA Max    | 8mA Max    | 7mA Max    |
|                             |                  | 35MHz to 49.999MHz                     | 35mA Max                                  | 25mA Max    | 20mA Max   | 15mA Max   |
|                             |                  | 50MHz to133.000MHz                     | 40mA Max                                  | 35mA Max    | 30mA Max   | 25mA Max   |
| Output Symmetry             | Sym              | At 1/2V <sub>DD</sub>                  | 40/60%(45/55% Option)                     |             |            |            |
| Rise time                   | T <sub>r</sub>   | 10%V <sub>DD</sub> ~90%V <sub>DD</sub> | 5 nS Max                                  | 5 nS Max    | 6 nS Max   | 7 nS Max   |
| Fall Time                   | T <sub>f</sub>   | 90%V <sub>DD</sub> ~10%V <sub>DD</sub> | 5 nS Max                                  | 5 nS Max    | 6 nS Max   | 7 nS Max   |
| Output Voltage              | V <sub>OH</sub>  |                                        | 90% V <sub>DD</sub> Min                   |             |            |            |
|                             | V <sub>OL</sub>  |                                        | 10% V <sub>DD</sub> Max                   |             |            |            |
| Output Load                 | HCMOS Load       |                                        | 15pF Typ.                                 |             |            |            |
| Start Time                  | T <sub>s</sub>   |                                        | 10mS Max                                  |             |            |            |
| Stand-by Function           |                  |                                        | Yes                                       |             |            |            |
| Aging(First Year)           |                  | 25℃±3℃                                 | ±2ppm Max                                 |             |            |            |
| Pin 1,tri-state function    |                  |                                        | Pin 1=H or open....Output active at pin 3 |             |            |            |
|                             |                  |                                        | Pin 1=L.....high impedance at pin 3       |             |            |            |
| Packing Unit                |                  | 1000pcs/reel                           |                                           |             |            |            |

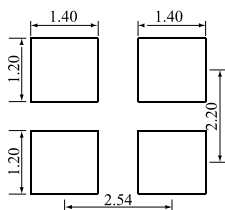
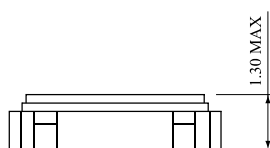
\*Include: 25°C tolerance, operating temperature range, input voltage change, aging, load change, shock and vibration

## Mechanical Dimensions(mm)



| Pin | Connection      |
|-----|-----------------|
| #1  | Tri-State       |
| #2  | GND             |
| #3  | Output          |
| #4  | V <sub>DD</sub> |

### Recommended Solder Pattern



\*\*Note: A 0.01uF bypass capacitor should be placed between V<sub>DD</sub>(Pin4) and GND(Pin2) to Minimize power supply line noise