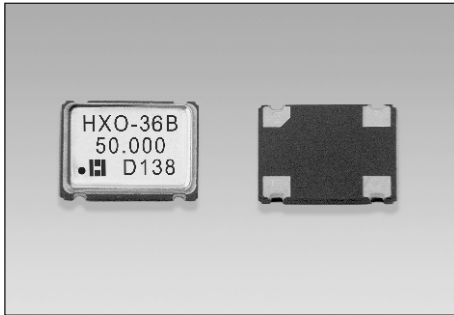




## • HXO-36&37&39 Series 7.0X5.0X1.5 mm



The HXO-36&37&39 series is an ultra miniature package clock oscillator with size of 7.0X5.0X1.5mm. It is mainly used in portable PC and telecommunication devices and equipment.

### FEATURES

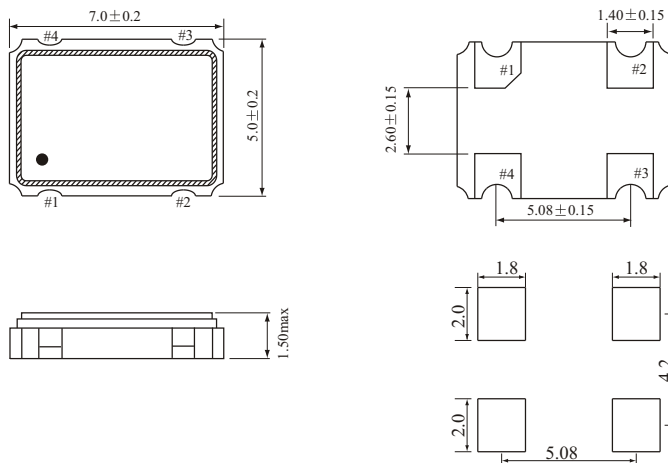
- Miniature Package
- Tri-State Enable/Disable
- TTL/HCMOS compatible
- Tape and Reel
- IR Re-flow
- 3.3V Input Voltage
- 2.5V&1.8V Option

### Electrical Specifications

| Parameter                   | Condition        | HXO-36  | HXO-37     | HXO-39     |
|-----------------------------|------------------|---|------------|------------|
| Frequency Range             | F <sub>O</sub>   | 1MHz~125.00MHz  |            |            |
| Frequency Stability*        | All Condition*   | ±25ppm, ±50ppm, ±100ppm   |            |            |
| Operating Temperature Range | T <sub>OPR</sub> | 0°C~70°C(-40°C~+85°C option)  |            |            |
| Storage Temperature Range   | T <sub>STG</sub> | -55°C~+125°C  |            |            |
| Power supply Voltage        | V <sub>DD</sub>  | 3.3V+/-10%  | 1.8V+/-10% | 2.5V+/-10% |
| Aging(First Year)           | 25°C ±3°C        | ±5ppm   |            |            |
| Supply Current              | I <sub>DD</sub>  | 1.000MHz to 23.999MHz   | 15mA Max   | 10mA Max   |
|                             |                  | 24.000MHz to 49.999MHz  | 20mA Max   | 12mA Max   |
|                             |                  | 50.000MHz to 69.999MHz  | 30mA Max   | 15mA Max   |
|                             |                  | 70.000MHz to 125.000MHz   | 45mA Max   | 25mA Max   |
| Output Symmetry             | Sym              | At 1/2V <sub>DD</sub>   |            |            |
| Rise time                   | T <sub>r</sub>   | 40/60%(45/55% Option)   |            |            |
| Fall Time                   | T <sub>f</sub>   | 8 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       | 30pF Max(15pF type)   |            |            |
| Start-up Time               | T <sub>s</sub>   | 10mS Max  |            |            |
| Pin 1,tri-state function    |                  | Pin 1=H or open...Output active at pin 3<br>Pin 1=L.....high impedance at pin 3 |            |            |

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

### Mechanical Dimensions(mm)



| Pin | Connection                         |
|-----|------------------------------------|
| #1  | Tri-State/NC                       |
| #2  | GND                                |
| #3  | Output                             |
| #4  | +3.3V <sub>DC</sub><br>(2.5V&1.8V) |

### 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

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Specifications are subject to change without notice