

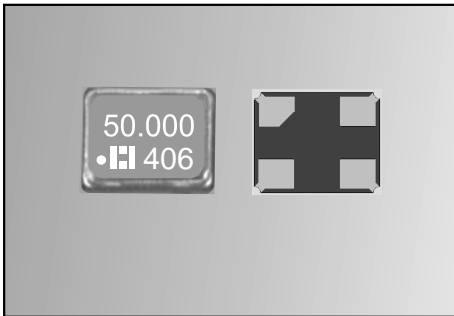


SMD CRYSTAL OSCILLATOR



• HXO-S Series

3.2X2.5X1.2 mm



FEATURES

The HXO-S series is an ultra miniature package clock oscillator with size of 3.2X2.5X1.2mm. It is mainly used in portable PC and telecommunication devices and equipment.

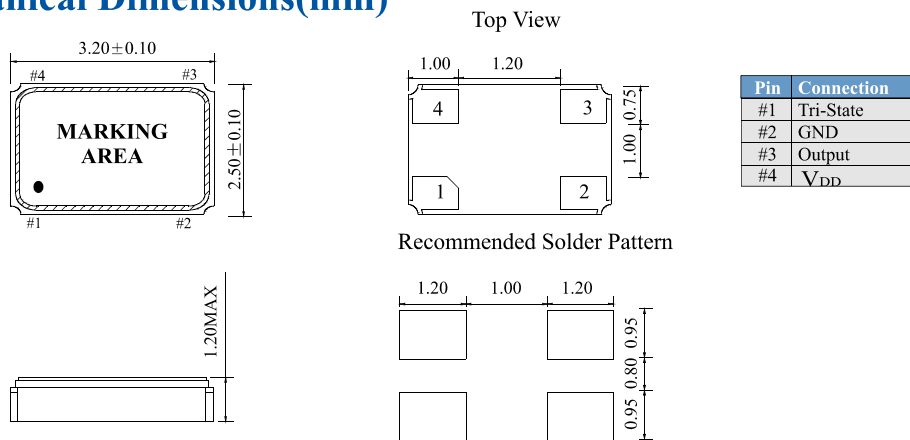
- 3.2X2.5X1.2 Miniature Package
- Tri-State Enable/Disable
- TTL/HCMOS compatible
- Tape and Reel
- IR Re-flow
- 5.0V,3.3V,2.8V and 1.8V option

Electrical Specifications

| Parameter | Condition | HXO-SF | HXO-SC | HXO-SD | HXO-SE | |
|-----------------------------|------------------------------------|---|------------|------------|------------|----------|
| Frequency Range | F0 | 1MHz~54MHz | | | | |
| Frequency Stability* | All Condition | $\pm 25\text{ppm}$, $\pm 50\text{ppm}$, $\pm 100\text{ppm}$ | | | | |
| Operating Temperature Range | T _{OPR} | -20°C~+70°C (-40°C~+85°C option) | | | | |
| Storage Temperature Range | T _{STG} | -55°C~+125°C | | | | |
| Power supply Voltage | V _{DD} | 5.0V+/-10% | 3.3V+/-10% | 2.8V+/-10% | 1.8V+/-10% | |
| Supply Current | I _{DD} | 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 to 54.000MHz | 40mA Max | 35mA Max | 30mA Max | 25mA Max |
| Output Symmetry | Sym | At 1/2V _{DD} | | | | |
| Rise time | T _r | 40/60%(45/55% Option) | | | | |
| Fall Time | T _f | 5 nS Max | 5 nS Max | 6 nS Max | 7 nS Max | |
| Output Voltage | V _{OH} V _{OL} | 90% V _{DD} Min | | | | |
| | | 10% V _{DD} Max | | | | |
| Output Load | HCMOS Load | 15pF Typ. | | | | |
| Start Time | T _s | 10mS Max | | | | |
| Stand-by Function | | Yes | | | | |
| Aging(First Year) | 25°C ±3°C | $\pm 2\text{ppm}$ 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 | | 3000pcs/reel | | | | |

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

Mechanical Dimensions(mm)



**Note: A 0.01uF bypass capacitor should be placed between V_{DD}(Pin4) and GND(Pin2) to Minimize power supply line noise