



### Features and Benefits

- Surface mount package
- 4 pad 7x5x1.85mm
- Optional voltage control function
- RoHS Compliant
- Lead Free construction

### Typical Applications

- UHF Synthesizers
- SATCOM System
- Portable Microwave Applications

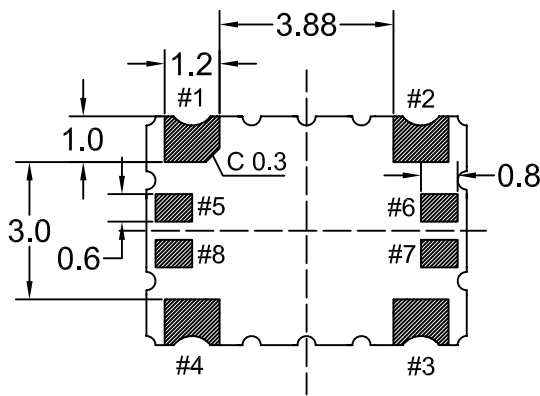
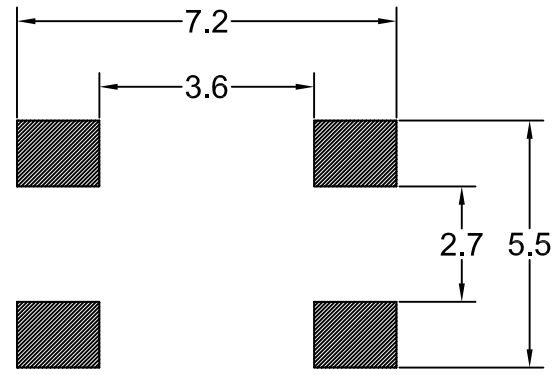
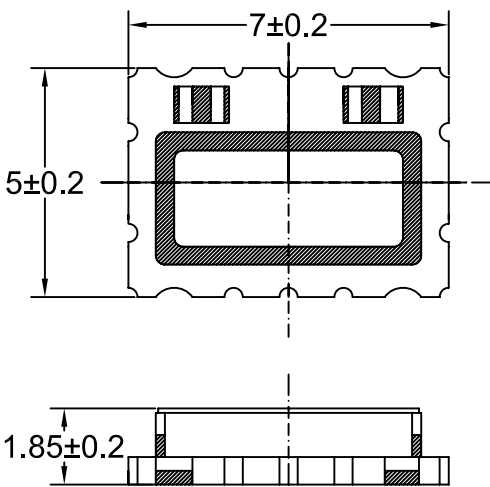


TCXO7500AP\_series offers wide temperature operation from -40°C to +85°C with outstanding frequency stability.

### Mechanical Drawing & Pin Connections

Drawing No: MD180006-1

Solder pattern



#### Pin Function

- #1 Vc or NC
- #2 GND
- #3 Output
- #4 Supply Voltage

Do not connect #5, #6, #7, #8

Unit in mm  
1mm = 0.0394 inches



## Specifications

| Oscillator Specification            | Sym           | Condition                        | Value                |                          |      | Unit | Note                  |
|-------------------------------------|---------------|----------------------------------|----------------------|--------------------------|------|------|-----------------------|
|                                     |               |                                  | Min.                 | Typ.                     | Max  |      |                       |
| Operational Frequency Range         | $F_{nom}$     |                                  | 10                   |                          | 52   | MHz  |                       |
| Standard Frequency                  |               |                                  | 10,16.384,19.2,20,25 |                          |      | MHz  |                       |
| CMOS                                | Output Level  |                                  | CMOS                 |                          |      |      |                       |
|                                     | Output Load   |                                  | 15                   |                          |      | pF   |                       |
|                                     | Duty Cycle    |                                  | 40                   |                          | 60   | %    |                       |
| Clipped Sine                        | Output Level  |                                  | 0.8Vp-p              |                          |      |      |                       |
|                                     | Output Load   |                                  | 10kohm//10pF         |                          |      |      |                       |
| <b>Power Supply</b>                 |               |                                  |                      |                          |      |      |                       |
| Voltage                             | $V_{cc}$      |                                  | 2.7                  |                          | 5.5  | V    |                       |
| Current Consumption                 |               |                                  |                      |                          | 8.5  | mA   | For CMOS output       |
|                                     |               |                                  |                      |                          | 3.5  | mA   | For Clipped sine      |
| <b>Frequency Control*</b>           |               |                                  |                      |                          |      |      |                       |
| Control voltage range               | $V_c$         |                                  |                      | 1.5±1.0;1.65±1.0;2.5±1.0 |      | V    |                       |
| Tuning range                        |               |                                  | ±3                   |                          |      | ppm  | Tuning Slope Positive |
| <b>Frequency Stability</b>          |               |                                  |                      |                          |      |      |                       |
| Versus ±5% change in supply voltage |               |                                  |                      |                          | ±0.3 | ppm  |                       |
| Versus ±10% change in load          |               | Ref to frequency at nominal load |                      |                          | ±0.3 | ppm  |                       |
| First Year Aging                    |               |                                  |                      |                          | ±1.0 | ppm  |                       |
| Versus Reflow                       |               | 1 reflow                         |                      |                          | ±1.0 | ppm  |                       |
| Phase noise (typ.) @20MHz           |               | 1000 Hz                          |                      |                          | -135 | dBc  |                       |
| <b>Environmental Conditions</b>     |               |                                  |                      |                          |      |      |                       |
| Storage temperature range           | -40°C to 85°C |                                  |                      |                          |      |      |                       |

## Frequency Stability vs. Temperature

|                | ±0.05PPM      | ±0.1PPM     | ±0.2PPM   | ±0.5PPM   | ±1.0PPM   | ±2.0PPM   |
|----------------|---------------|-------------|-----------|-----------|-----------|-----------|
| 0°C to +50°C   | Available     | Available   | Available | Available | Available | Available |
| -10°C to +60°C | Conditional   | Available   | Available | Available | Available | Available |
| -20°C to +70°C | Not Available | Conditional | Available | Available | Available | Available |
| -30°C to +75°C | Not Available | Conditional | Available | Available | Available | Available |
| -40°C to +85°C | Not Available | Conditional | Available | Available | Available | Available |