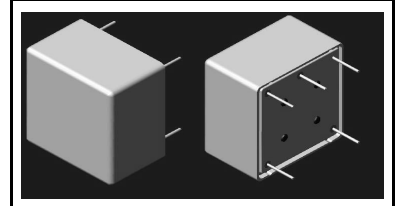


# Preliminary



## XOC17 Series OCXOs

**5 to 100 MHz  
Frequency  
Range**



- **Oven Controlled Crystal Oscillators**
- **Very High Frequency Accuracy and Stability with Fast Warm-up**
- **Low Power Consumption, Small Size**
- **Low Phase Noise and Jitter**
- **Fixed-tuned and Voltage-tunable Options**
- **Typical Applications Include:**
  - Cellular Base Stations
  - Communication Test Equipment
  - Precision Frequency Synthesizers
- **Complies with Directive 2002/95/EC (RoHS)**



### Electrical Characteristics

| Characteristic   | Sym | Notes    | Minimum                                  | Typical | Maximum    | Units   |
|--|-----|----------|--|---------|------------|---------|
| Frequency Range (Each OCXO is Single Frequency)          | Fo  |          | 5.000000                                 |         | 100.000000 | MHz     |
| Initial Frequency Tolerance Options                      |     |          | 100                                      |         | 200        | ppb     |
| Warm-up Time to <10 ppb of 2 hour Warm-up Frequency (SC) |     | at 25 °C |  | 10      |            | minutes |
| 0 to 70 °C Temperature Range Operation:                  |     |          |  |         |            |         |
| Stability Options, 5 to 40 MHz using AT Crystal          |     |          | 5  |         | 50         | ppb     |
| Stability Options, 5 to 40 MHz using SC Crystal          |     |          | 4  |         | 20         |         |
| Stability Options, 40 to 100 MHz using AT Crystal        |     |          | 10                                       |         | 100        |         |
| Stability Options, 40 to 100 MHz using SC Crystal        |     |          | 4  |         | 50         |         |
| -20 to 70 °C Temperature Range Operation:                |     |          |  |         |            |         |
| Stability Options, 5 to 40 MHz using AT Crystal          |     |          | 5  |         | 50         | ppb     |
| Stability Options, 5 to 40 MHz using SC Crystal          |     |          | 4  |         | 50         |         |
| Stability Options, 40 to 100 MHz using AT Crystal        |     |          | 10                                       |         | 100        |         |
| Stability Options, 40 to 100 MHz using SC Crystal        |     |          | 4  |         | 50         |         |
| -40 to 85 °C Temperature Range Operation:                |     |          |  |         |            |         |
| Stability Options, 5 to 20 MHz using AT Crystal          |     |          | 10                                       |         | 50         | ppb     |
| Stability Options, 20 to 40 MHz using AT Crystal         |     |          | 10                                       |         | 100        |         |
| Stability Options, 40 to 100 MHz using AT Crystal        |     |          | 20                                       |         | 100        |         |
| Output Waveform Options:                                 |     |          |  |         |            |         |
| Sinewave Output, 50 ohm Load                             |     |          | harmonics -30 dBc, Non-harmonics -70 dBc |         |            |         |
| HCMOS Output, 15 pF Load                                 |     |          | 40/60% duty cycle                        |         |            |         |
| TTL Output, 5 TTL Load                                   |     |          | 40/60% duty cycle                        |         |            |         |
| Power Supply Voltage Options, ±5% Tolerance              | VCC |          | 3.30                                     | 5.00    | 12.00      | V       |
| Optional Voltage Tuning Feature:                         |     |          |  |         |            |         |
| Voltage Tuning Range for 3.3 V Power Supply Option       |     |          | 0  |         | 2.8        | V       |
| Voltage Tuning Range for 5 and 12 V Power Supply Options |     |          | 0  |         | 3.0        | V       |
| Frequency Tuning Range and Linearity, AT Crystal         |     |          | 1 to 3 ppm, 10% to 20% Linearity         |         |            |         |
| Frequency Tuning Range and Linearity, SC Crystal         |     |          | 0.5 to 1 ppm, 10% Linearity              |         |            |         |
| Tuning Input Impedance                                   |     |          |  | 100K    |            | ohms    |
| Tuning Voltage Reference Output Impedance                |     |          |  |         | 100        | ohms    |
| Tuning Voltage Reference Output Current                  |     |          |  |         | 1          | mA      |
| Operating Power:   |     |          |  |         |            |         |
| Within 2 minutes of Turn on                              |     |          |  | 2.0     | 2.5        | W       |
| Steady State   |     |          |  | 0.9     |            |         |

## Electrical Characteristics

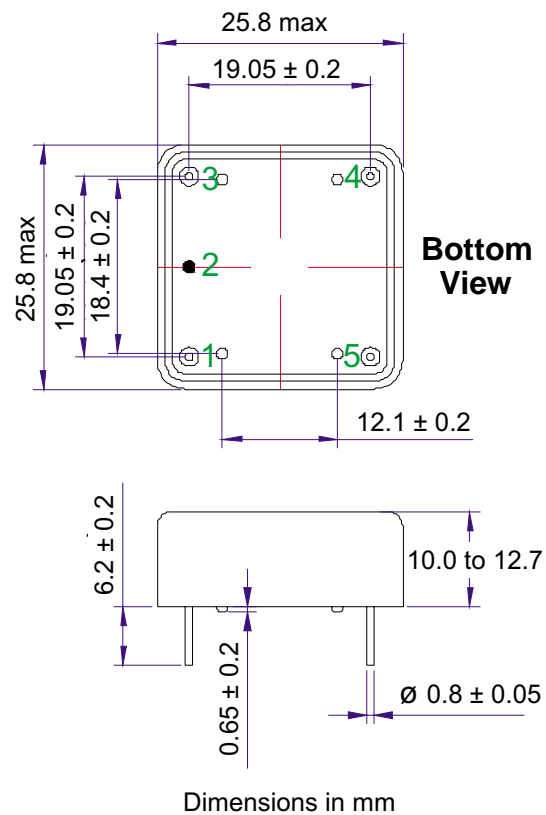
| Characteristic                             | Sym         | Notes | Minimum | Typical | Maximum | Units  |
|--|-------------|-------|---------|---------|---------|--------|
| Aging:                                     |             |       |         |         |         |        |
| AT Crystal                                 |             |       |         | 50      | 200     | ppb    |
| SC Crystal                                 |             |       |         | 20      | 50      |        |
| SSB Phase Noise, 10 MHz SC Crystal Option: |             |       |         |         |         |        |
| @ 10 Hz offset                             |             |       |         | -125    |         | dBc/Hz |
| @ 100 Hz offset                            |             |       |         | -135    |         |        |
| @ 1 kHz offset                             |             |       |         | -145    |         |        |
| @ 10 and 100 kHz offset                    |             |       |         | -155    |         |        |
| Lid Symbolization                          | TBD // YWWS |       |         |         |         |        |

## 5-Pin Seam Weld Case 25.8 x 25.8 x 12.7 mm Nominal Dimensions

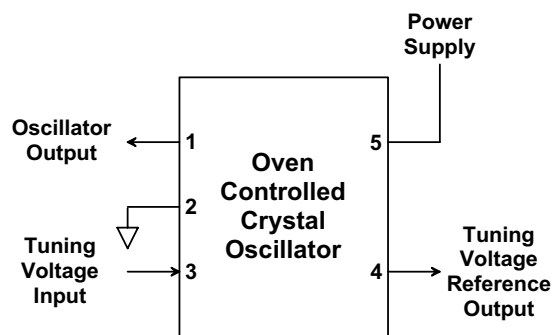
### Pin Functions

| Pin | Connection                      |
|-----|---------------------------------|
| 1   | Oscillator Output               |
| 2   | Case/Circuit Ground             |
| 3   | Tuning Voltage Input            |
| 4   | Tuning Voltage Reference Output |
| 5   | Power Supply Voltage Input      |

### Case Outline Drawing



### Application Circuit



**CAUTION: Electrostatic Sensitive Device. Observe precautions for handling.**



### Notes:

- The design, manufacturing process, and specifications of this device are subject to change without notice.