

**PRELIMINARY**



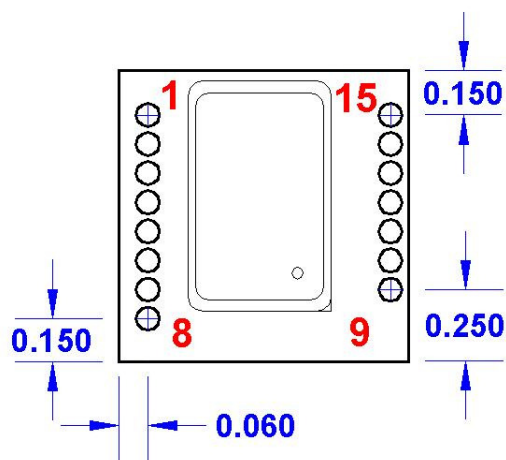
- The Pletronics GPS-TCXO Series is a high precision GPS-disciplined reference oscillator.
- The GPS-TCXO utilizes a high precision TCXO oscillator, synchronized to the GPS atomic clock.
- The GPS-TCXO offers unmatched price and performance over traditional GPS-OCXO reference solutions.
- Allan Deviation  $< 2 \times 10^{-11}$  at 25°C.
- The GPS-TCXO has a standard LVCMOS output.
- Power is 3.3v.
- The GPS-TCXO has very low power consumption due to its high performance TCXO.
- An ideal solution for low power applications.
- Very low phase noise.
- Available in 10 MHz standard reference oscillator frequency. Contact Pletronics for additional frequencies.
- Evaluation modules are available.

| <b>TYP. ELECTRICAL SPECIFICATIONS:</b>                                        |                                                                                      |
|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| <b>Module Specification:</b>                                                  |                                                                                      |
| 1 PPS Accuracy                                                                | ±75ns to UTS RMS (1-Sigma) GPS Locked                                                |
| 1 PPS Output                                                                  | 3.3VDC CMOS                                                                          |
| Serial Control                                                                | GPS NMEA Output                                                                      |
| GPS Frequency                                                                 | L1, C/A 1574MHz                                                                      |
| GPS Antenna                                                                   | Active or Passive                                                                    |
| GPS Receiver                                                                  | 50 Channels, Mobile, SBAS WAAS, EGNOS, MSAS capable                                  |
| Sensitivity                                                                   | Acquisition -142 dBm, Tracking -158 dBm                                              |
| GPS TTFF                                                                      | Cold Start—<45 sec, Warm Start—1 sec, Hot Start—1 sec                                |
| ADEV                                                                          | 10Ks $< 5 \times 10^{-12}$ (TCXO, GPS Locked, 25°C, no motion)                       |
| TTL Alarm Output                                                              | GPS LOCK indicator, GPS Lock output                                                  |
| Warm Up Time / Stabilization Time                                             | < 3 min at + 25°C to 1E-08 Accuracy                                                  |
| Supply Voltage (Vdd)                                                          | 3.3V Single-Supply only (5V internally generated and filtered)                       |
| Power Consumption                                                             | < 0.6W with TCXO                                                                     |
| Operating Temperature                                                         | 0°C to +60°C                                                                         |
| Storage Temperature                                                           | -45°C to +85°C                                                                       |
| Additional Features                                                           | External 1PPS input, status LEDs, full NMEA                                          |
| <b>Oscillator Specification (TCXO):</b>                                       |                                                                                      |
| Frequency Output                                                              | 10MHz CMOS 3.3Vpp (5.0Vpp optional)                                                  |
| 10MHz Retrace                                                                 | ±2E-08 After 1 Hour @ +25°C                                                          |
| Frequency Stability Over Temperature (Unlock Condition)                       | ±7.5E-08 (TCXO)                                                                      |
| Output Amplitude                                                              | 3.3Vpp CMOS, (5.0Vpp optional)                                                       |
| <b>Connections:</b>                                                           |                                                                                      |
| <b>Connector Type:</b>                                                        |                                                                                      |
| 1PPS Output, 10MHz Output, power, system status, NMEA, 1PPS in, antenna input | 100 mil spacing on pins, can be soldered, or plugged into a socket, gold-plated pins |

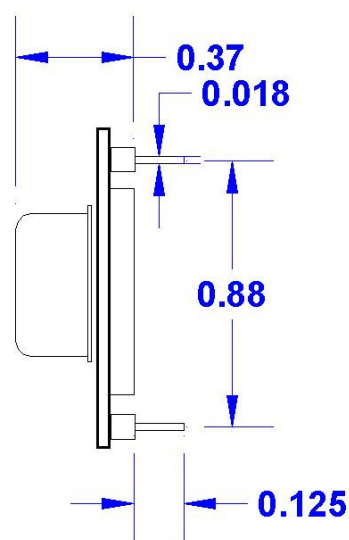
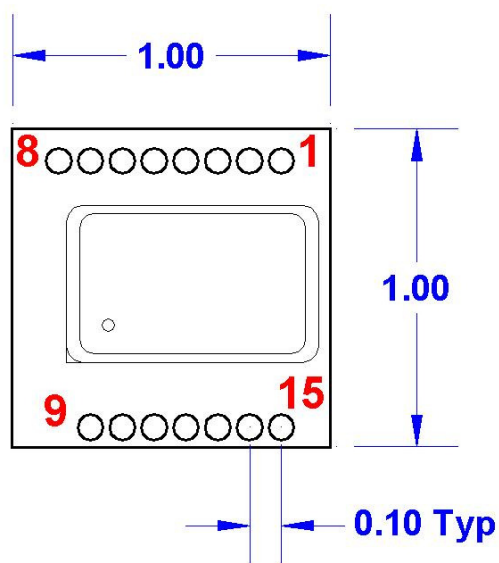
# GPS-TCXO Series

## GPS Synchronized TCXO Module

March 2014



| Pad | Function      | Note                                                  |
|-----|---------------|-------------------------------------------------------|
| 1   | Ground        |                                                       |
| 2   | 10 MHz Out    | 10 MHz CMOS Output                                    |
| 3   | Lock OK       | 3.3V CMOS Output                                      |
| 4   | 1 PPS Output  | 3.3V CMOS Output                                      |
| 5   | 1 PPS Input   | 3.3V to 5.0V CMOS (Rising Edge)                       |
| 6   | + 5V Output   | < 100 ma                                              |
| 7   | Ground        |                                                       |
| 8   | +3.3V VDO In  |                                                       |
| 9   | Ground        |                                                       |
| 10  | Antenna Input | Module provides +5.0V Power Supply for Active Antenna |
| 11  | Ground        |                                                       |
| 12  | NMEA Transmit | NEMA-0183 GGA format GPS data output                  |
| 13  | 1PPS Input    | High—External PPS, Low Internal PPS                   |
| 14  | N/C           | No external Connection Allowed                        |
| 15  | N/C           | No external Connection Allowed                        |



Note: All dimensions are in inches

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