



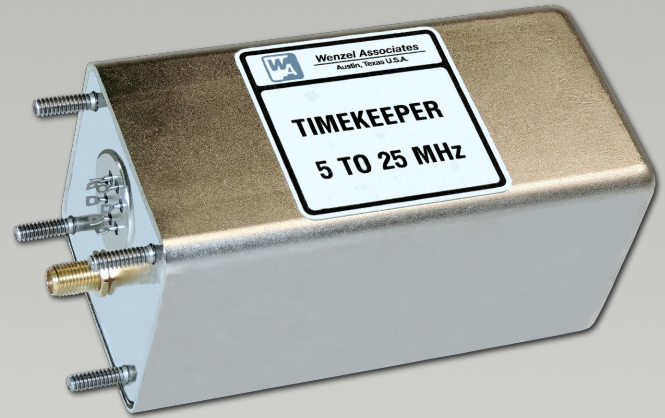
## Low Noise Crystal Oscillators > Timekeeper

### Features:

- Frequency: 5 MHz to 25 MHz, fixed
- Low Aging Rate
- Low Phase Noise
- Good Temperature Stability
- Internal Voltage Regulator

### Applications:

- GPS Receivers
- Synthesizers
- Test Equipment
- Instruments



Electrical Specifications	
<b>Output Frequency</b> (fixed; specify within range)	<b>5 MHz to 25 MHz</b>
<b>Output Level</b>	+13 dBm ±2 dB into 50 ohms
<b>Aging</b>	(10 MHz model, typical)
Per day after 30 days operating, typical	$5 \times 10^{-10}$
Second year, typical	$5 \times 10^{-8}$
Per year thereafter, typical	$3 \times 10^{-8}$
<b>Temperature Stability</b> (consult factory for other ranges)	(10 MHz model, typical)
Range E: 0 to +50°C (Ref: +25°C)	$\leq \pm 2 \times 10^{-9}$
Range F: -20 to +70°C (Ref: +25°C)	$\leq \pm 5 \times 10^{-9}$
Range G: -55 to +85°C (Ref: +25°C)	$\leq \pm 1.5 \times 10^{-8}$
<b>Phase Noise</b>	(Frequency Dependent: See Standard Specifications and Part Numbers table below for details)
<b>Harmonics</b>	$\leq -30$ dBc
<b>Spurious</b>	$\leq -80$ dBc
<b>Tuning</b>	(MT and ET ranges can be reversed upon request)
- Mechanical Tuning	$\geq \pm 1 \times 10^{-6}$ , typical
- Electrical Tuning	$\geq \pm 2 \times 10^{-7}$ , typical
Tuning A: 0 to +10 VDC	$\geq \pm 2 \times 10^{-7}$ , typical
Tuning B: ±5 VDC	$\geq \pm 2 \times 10^{-7}$ , typical
Slope: Negative	(Positive Slope available on some ET only models)
<b>Supply Voltage</b>	+15 VDC or +12 VDC (±5%)
<b>Warm-up</b>	$\leq 5$ Watts for 5 minutes at +25°C
<b>Total</b>	$\leq 2.2$ Watts at +25°C
<b>Crystal Type</b>	SC-cut
Mechanical	
<b>Packaging</b>	Solder sealed steel can
<b>Dimensions</b>	2" x 2" x 4"
<b>Connectors / Mounting</b>	SMA(f) and 7-pin header on side #6-32 x 0.5" mounting studs, 4 places
	- Package A

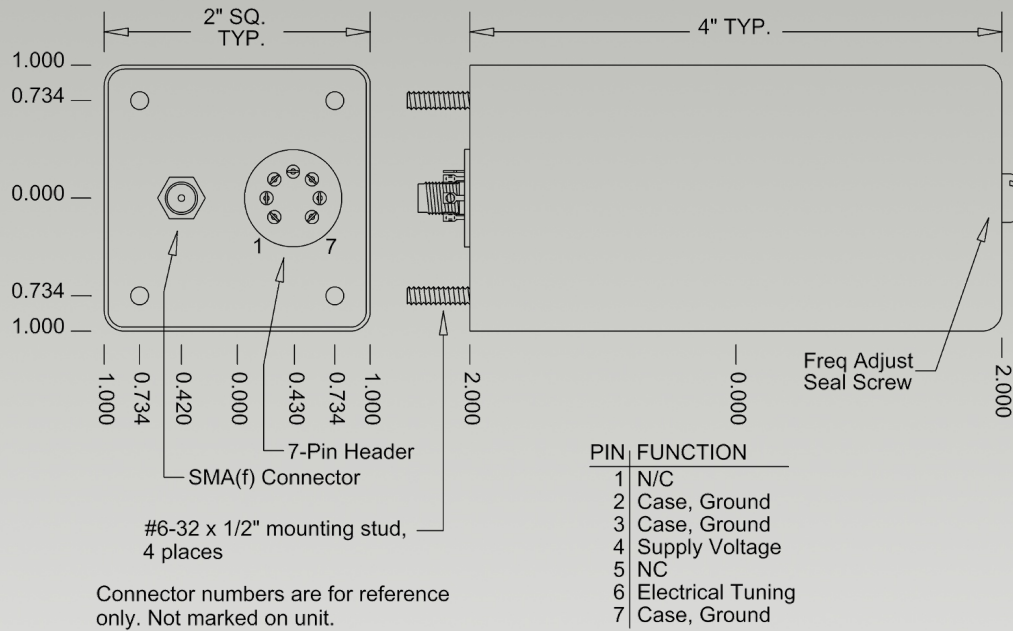
### Description:

The Timekeeper oscillator is an OCXO with a fixed output frequency between 5 MHz and 25 MHz, and offers excellent overall performance at a modest cost. The oscillator provides aging rates as low as 3E-10 per day and phase noise floor performance to -165 dBc/Hz. The Timekeeper is housed in a solder sealed steel can which is 2" x 2" x 4", and includes an SMA(f) connector and 7-pin header on one end. A low noise voltage regulator is included to minimize power supply line related spurious signals. Please contact technical staff to discuss custom requirements.





**Low Noise Crystal Oscillators > Timekeeper**



**Standard Specifications and Part Numbers \*\***

Part Number	Output Frequency * (MHz)	Typical Phase Noise (dBc/Hz), Static *					Output Level * (dBm) into 50 ohms	Temperature Stability * (Ref: +25°C)	Supply Voltage (VDC)	Package / Connectors	Package Size (inches)
		10 Hz	100 Hz	1 kHz	10 kHz	100 kHz					
501-27516-01	5	-135	-155	-165	-165	-165	+13 ±2	±2E-9, 0° to +50°C	+15	SMA(f) & 7 Pin Header	2 x 2 x 4
501-27516-02	5	-135	-155	-165	-165	-165	+13 ±2	±5E-9, -20° to +70°C	+15	SMA(f) & 7 Pin Header	2 x 2 x 4
501-27516-11	5	-145	-160	-165	-165	-165	+13 ±2	±2E-9, 0° to +50°C	+15	SMA(f) & 7 Pin Header	2 x 2 x 4
501-27516-12	5	-145	-160	-165	-165	-165	+13 ±2	±5E-9, -20° to +70°C	+15	SMA(f) & 7 Pin Header	2 x 2 x 4
501-27516-21	5	-135	-155	-165	-165	-165	+13 ±2	±2E-9, 0° to +50°C	+12	SMA(f) & 7 Pin Header	2 x 2 x 4
501-27516-22	5	-135	-155	-165	-165	-165	+13 ±2	±5E-9, -20° to +70°C	+12	SMA(f) & 7 Pin Header	2 x 2 x 4
501-27516-31	5	-145	-160	-165	-165	-165	+13 ±2	±2E-9, 0° to +50°C	+12	SMA(f) & 7 Pin Header	2 x 2 x 4
501-27516-32	5	-145	-160	-165	-165	-165	+13 ±2	±5E-9, -20° to +70°C	+12	SMA(f) & 7 Pin Header	2 x 2 x 4
501-27517-01	10	-110	-145	-160	-165	-165	+13 ±2	±2E-9, 0° to +50°C	+15	SMA(f) & 7 Pin Header	2 x 2 x 4
501-27517-02	10	-110	-145	-160	-165	-165	+13 ±2	±5E-9, -20° to +70°C	+15	SMA(f) & 7 Pin Header	2 x 2 x 4
501-27517-11	10	-115	-145	-165	-165	-165	+13 ±2	±2E-9, 0° to +50°C	+15	SMA(f) & 7 Pin Header	2 x 2 x 4
501-27517-12	10	-115	-145	-165	-165	-165	+13 ±2	±5E-9, -20° to +70°C	+15	SMA(f) & 7 Pin Header	2 x 2 x 4
501-27517-21	10	-110	-145	-160	-165	-165	+13 ±2	±2E-9, 0° to +50°C	+12	SMA(f) & 7 Pin Header	2 x 2 x 4
501-27517-22	10	-110	-145	-160	-165	-165	+13 ±2	±5E-9, -20° to +70°C	+12	SMA(f) & 7 Pin Header	2 x 2 x 4
501-27517-31	10	-115	-145	-165	-165	-165	+13 ±2	±2E-9, 0° to +50°C	+12	SMA(f) & 7 Pin Header	2 x 2 x 4
501-27517-32	10	-115	-145	-165	-165	-165	+13 ±2	±5E-9, -20° to +70°C	+12	SMA(f) & 7 Pin Header	2 x 2 x 4

\* Consult factory for custom frequency, phase noise performance, output level and temperature stability options.

\*\* See website for additional Standard Specifications and Part Numbers.

