## OCXO (Oven Controlled Crystal Oscillators) +5.0V; +12V OC22T Series HCMOS Square Wave





Mercury OC22T is 50.8X50.8 mm 7 pin solder sealed metal pacakge with 38.1X38.1 mm pin-to-pin spacing high stability low aging OCXO. SC cut crystal is standard for OC22 .  $\pm$  0.4 ppb stability and  $\pm$ 150 ppb total aging over 10 years make the OC22 ideal for base stations, digital switching , instrumentation and frequency synthesizers. 50 ohm load sine output is available as OC22E series.

General Specifications	$(10 \text{ MHz at}+25^{\circ}\text{C}, \text{ at specified Vcc and } +2.5 \text{ V Vcon})$
aonorai opoonnoanomo	To mile at 1 20 0, at opposition voo and 1 210 v voon,

Frequency Range     5.0 MHz - 20.0 MHz       AT-cut. Use "A" for crystal code or SC-cut: use "S" for crystal code. SC has better performance but higher cost. See technical note TN-031.       Supply Voltage (Vcc)     +5.0 V <sub>Dc</sub> ± 5% (voltage code is "S"); +12.0 V <sub>Dc</sub> ± 5% (voltage code is "12")       Initial Calibration Tolerance     ±0.1 ppm max. at time of shipment; Vcon= +2.5V, at +25°C       Provide (ustom spec. on request)     Aging (after 72 hours of continuous operation)     AT: ±3 ppt max./day; ±0.5 ppt     ±0.1 ppm ±0.2 ppm       Supply Voltage ±5% Variation     ±1 ppt max.     Load ±5% variation:     ±1 ppt max.       Warm-up time (at +25°C)     AT: ±3 ppt max./day; ±0.5 ppt max./first year; ±150 ppt max. over 10 years.       Supply Voltage ±5% Variation     ±1 ppt max.       Warm-up time (at +25°C)     AT: 1 minute max. Within ±0.2 ppm of its reference frequency.       SC: ±0.5 ppt max./Lay; ±50 ppt max./lay; ±50 ppt of its reference frequency.       GG: Signe Si	Output W			HCMOS square wave. Wave form code is " <b>T</b> "							
Type of Crystal Cut Used     AT-cut. Use "A" for crystal code or SC-cut: use "S" for crystal code. SC has better performance but higher cost. See technical note TN-031.       Supply Voltage (Vcc)     +5.0 V p.c. ±5% (voltage code is "5"); +12.0 V p.c. ±5% (voltage code is "12") Initial Calibration Tolerance     ±0.1 ppm max. at time of shipment; Vcon=+2.SV, at +25°C       Best Stability     0°C to +60°C     -20°C to +70°C     -40°C to +85°C       For AT crystal     ±5.0 ppb     ±0.1 ppm     ±0.2 ppm       Aging (after 72 hours of continuous operation)     AT:=3 ppb max./day; ±50 ppb     ±0.1 ppm     ±0.2 ppm       Supply Voltage ±5% variation     ±1 ppb max./day; ±50 ppb     ±0.1 ppm or its reference frequency. SC: ±0.5 ppb max./day; ±50 ppb or dits reference frequency. SC: 5 minute max. Within ±0.2 ppm of its reference frequency. SC: 5 minute max. Within ±10 ppb of its reference frequency. SC: 5 minute max. Within ±10 ppb of its reference frequency. SC: 5 minute max. Within ±10 ppb of its reference frequency. SC: 5 minute max. Within ±10 ppb of its reference frequency. SC: 5 ppm min. ±20 ppm max.]       Power     Power Dissipation (at +25°C)     1.0 Watts max. at steady-state; 4.5 Watts max. at turn-on.       Load (Fan out)     15 pF HCMOS max.     EFC Linearity     ±20% max.       Power     Power Olissipation (at +25°C)     1.0 Watts max. at steady-state; 4.5 Watts max. at turn-on.     Load (Fan out)       15 pF HCMOS max.     50% ± 5%. (measured at 50% Vcc)     Uput Voltage Logic Low (Vol)     +0.5 max.       Notage Logic Low (Vol)     +0.5 max.<											
Initial Calibration Tolerance       ±0.1 ppm max. at time of shipment; Vcon=+2.5V, at +25°C         Image: Section Sectin Section Section Section Section Section S					AT-cut. Use "A" for crystal code or SC-cut: use "S" for crystal code.						
Second State         Operating Temperature Range (ustom spec. on request)         Best Stability         0°C to +60°C         -20°C to +70°C         -40°C to +85°C           Aging (after 72 hours of continuous operation)         Aging (after 72 hours of continuous operation)         AT: ±3 ppb max./day; ±0.5 ppm max./first year; ±3 ppm max. over 10 years.         Sc ± 0.5 ppm max./dirst year; ±150 ppb max. over 10 years.           Supply Voltage ±5% Variation:         ±1 ppb max.         AT: ±3 ppb max./day; ±50 ppb max./first year; ±150 ppb max. over 10 years.           Warm-up time (at +25°C)         Freq. Deviation Range         AT: 1 minute max. Within ±0.2 ppm of its reference frequency.           AT: 1 minute max. Within ±10 ppb of its reference frequency.         AT: ±5 ppm min. ±20 ppm max.;         Referenced to for at +25°C and over operating temperature range.           Control Voltage Range         2.5 V ± 2.0 V         Transfer Function         Positive: Increasing control voltage increases output frequency.           Transfer Function         Positive: Increasing control voltage increases output frequency.         1.0 Watts max. at steady-state; 4.5 Watts max. at turn-on.           Load (Fan out)         15 pF HCMOS max.         100 K ohms min.         EFC Linearity         ±20% max.           Output Voltage Logic High (V <sub>OH</sub> )         +4.5 V min.         4.5 V min.         4.5 V min.         4.5 V min.           Output Voltage Logic Low (V <sub>OL</sub> )         5 nS max. (measured at 20% ≠ 80% of waveform)<					$+5.0 V_{D.C} \pm 5\%$ (	voltage code i	s " <b>5</b> "); ⊣	-12.0 V <sub>D</sub>	<sub>.c</sub> ±5% (vo	ltage code is " <b>12</b> ")	
Image: Program Provided Control Voltage Logic Low (Voltage	Initial Cal	ibration 1	Tolerance		$\pm 0.1$ ppm max. a	at time of shipr	nent; Vc	on=+2.	5V, at +25°	°C	
Image: Product of the system of the syste		(custom spec. on request)			Best Stability	0°C to +	60°C	-20°C to	) +70°C	-40°C to +85°C	
Por SC crystal       ±0.4 ppb       ±5 ppb       ±15 ppb         Aging (after 72 hours of continuous operation)       AT:±3 ppb max./day; ±0.5 ppm max./first year;±3 ppm max. over 10 years. Sc: ±0.5 ppb max./day; ±50 ppb max./first year;±10 ppb max. over 10 years.         Supply Voltage ±5% Variation:       ±1 ppb max.         ±1 ppb max.       ±1 ppb max.         Varm-up time (at +25°C)       AT: 1 minute max. Within ±0.2 ppm of its reference frequency. Sc: 5 minute max. Within ±10 ppb of its reference frequency. Sc: 5 minute max. Within ±10 ppb of its reference frequency.         Sign of fight       Freq. Deviation Range       2.5 V ± 2.0 V         Control Voltage Range       2.5 V ± 2.0 V         Transfer Function       Positive: Increasing control voltage increases output frequency.         Input Impedance       100 K ohms min.       EFC Linearity       ±20% max.         Power       Power Dissipation (at +25°C)       1.0 Watts max. at steady-state; 4.5 Watts max. at turn-on.       Load (Fan out)         Duty Cycle       50% ± 5%. (measured at 50%Vcc)       Output Voltage Logic Low (V <sub>0L</sub> )       +0.5 max.         Rise and Fall Time       5 ns max. (measured at 20% ≈ 80% of waveform)       10 KHz         Referencet Voltage Output       +4.0 V <sub>0.c</sub> ±0.3 V <sub>0.c</sub> . or custom.       140 dBc       -150 dBc         Power       Forset       1 Hz       10 Hz       100 Hz       1 KHz	₹										
Warm-up time (at +25°C)       Al: 1 minute max. Within ±0.2 ppm of its reference frequency. SC: 5 minute max. Within ±10 ppb of its reference frequency. <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b>	ilide										
Warm-up time (at +25°C)       Al: 1 minute max. Within ±0.2 ppm of its reference frequency. SC: 5 minute max. Within ±10 ppb of its reference frequency. <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b>	Sta S	•••									
Warm-up time (at +25°C)       Al: 1 minute max. Within ±0.2 ppm of its reference frequency. SC: 5 minute max. Within ±10 ppb of its reference frequency. <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b>	Frequency vs		· /			lay; ±50 ppb	max./firs	t year;±	150 ppb ma	ax. over 10 years.	
Warm-up time (at +25°C)       Al: 1 minute max. Within ±0.2 ppm of its reference frequency. SC: 5 minute max. Within ±10 ppb of its reference frequency. <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b> <b>S</b>											
Warm-up time (at + 25°C)       SC: 5 minute max. Within ± 10 ppb of its reference frequency. <b>SC</b> : ± 0.5 ppm min. ± 20 ppm max.; <b>SC</b> : ± 0.5 ppm min. ± 1 ppm max.       Referenced to fo at + 25°C and over operating temperature range. <b>SC</b> : ± 0.5 ppm min. ± 1 ppm max.       Referenced to fo at + 25°C and over operating temperature range. <b>Control Voltage Range</b> <b>SC</b> : ± 0.5 ppm min. ± 1 ppm max.       Referenced to fo at + 25°C and over operating temperature range. <b>Control Voltage Range</b> <b>Transfer Function</b> <b>Input Impedance</b> <b>100</b> K ohms min. <b>EFC Linearity</b> ± 20% max. <b>Power</b> <b>Power Dissipation (at + 25°C)</b> <b>1.0</b> Watts max. at steady-state; 4.5 Watts max. at turn-on. <b>Load (Fan out)</b> <b>15</b> pF HCMOS max. <b>Duty Cycle</b> <b>50% ± 5%.</b> (measured at 50% Vcc) <b>Output Voltage Logic High (V<sub>0H</sub>)</b> <b>+ 4.5 V min.</b> <b>Output Voltage Logic Low (V<sub>0L</sub>)</b> <b>4.0.5 max.</b> <b>Rise and Fall Time</b> <b>5</b> nS max. (measured at 20% ≠ 80% of waveform) <b>Reference Voltage Output</b> <b>4.4.0 V</b> <sub>D.c</sub> ±0.3 V <sub>D.c</sub> . or custom. <b>Phase</b> <b>Noise</b> <b>Offset</b> <b>1 Hz</b> <b>10 Hz</b> <b>100 Hz</b> <b>1 KHz</b> <b>10 KHz</b> <b>10 MHz AT-cut XTAL</b> <b>190 dBc</b> <b>120 dBc</b> <b>140 dBc</b> <b>150 dBc</b> <b>150 dBc</b> <b>150 dBc</b> <b>150 dBc</b> <b>150 dBc</b> <b>150 dBc</b> <b>150 dBc</b> <b>150 dBc</b>						ax Within +0	2 nnm o	f its refer	ence freque	ncv	
Image: Second secon		Warm-up time (at +25°C)									
Power       Power Dissipation (at +25°C)       1.0 Watts max. at steady-state; 4.5 Watts max. at turn-on.         Load (Fan out)       15 pF HCMOS max.         Duty Cycle       50% ± 5%. (measured at 50%Vcc)         Output Voltage Logic High (V <sub>0H</sub> )       +4.5 V min.         Output Voltage Logic Low (V <sub>0L</sub> )       +0.5 max.         Rise and Fall Time       5 nS max. (measured at 20% ≠ 80% of waveform)         Reference Voltage Output       +4.0 V <sub>D.C</sub> ±0.3 V <sub>D.C</sub> . or custom.         Phase Noise       Offset       1 Hz       10 Hz       100 Hz       1 KHz       10 KHz         10 MHz AT-cut XTAL       -75 dBc       -100 dBc       -130 dBc       -140 dBc       -150 dBc         Storage Temperature       -55°C to +125°C       -2000 G's, 0.3 ms ½ sine       -2000 G's, 0.3 ms ½ sine	Itage Control pin 1 (EFC) Electronics	cy (	Freq. Deviation Ran	ge							
Power       Power Dissipation (at +25°C)       1.0 Watts max. at steady-state; 4.5 Watts max. at turn-on.         Load (Fan out)       15 pF HCMOS max.         Duty Cycle       50% ± 5%. (measured at 50%Vcc)         Output Voltage Logic High (V <sub>0H</sub> )       +4.5 V min.         Output Voltage Logic Low (V <sub>0L</sub> )       +0.5 max.         Rise and Fall Time       5 nS max. (measured at 20% ≠ 80% of waveform)         Reference Voltage Output       +4.0 V <sub>D.C</sub> ±0.3 V <sub>D.C</sub> . or custom.         Phase Noise       Offset       1 Hz       10 Hz       100 Hz       1 KHz       10 KHz         10 MHz AT-cut XTAL       -75 dBc       -100 dBc       -130 dBc       -140 dBc       -150 dBc         Storage Temperature       -55°C to +125°C       -2000 G's, 0.3 ms ½ sine       -2000 G's, 0.3 ms ½ sine		Frequenc Tuning)	<b>Control Voltage Range</b>								
Power       Power Dissipation (at +25°C)       1.0 Watts max. at steady-state; 4.5 Watts max. at turn-on.         Load (Fan out)       15 pF HCMOS max.         Duty Cycle       50% ± 5%. (measured at 50%Vcc)         Output Voltage Logic High (V <sub>0H</sub> )       +4.5 V min.         Output Voltage Logic Low (V <sub>0L</sub> )       +0.5 max.         Rise and Fall Time       5 nS max. (measured at 20% ≠ 80% of waveform)         Reference Voltage Output       +4.0 V <sub>D.C</sub> ±0.3 V <sub>D.C</sub> . or custom.         Phase Noise       Offset       1 Hz       10 Hz       100 Hz       1 KHz       10 KHz         10 MHz AT-cut XTAL       -75 dBc       -100 dBc       -130 dBc       -140 dBc       -150 dBc         Storage Temperature       -55°C to +125°C       -2000 G's, 0.3 ms ½ sine       -2000 G's, 0.3 ms ½ sine			Transfer Function		Positive: Increas	sing control vo	ltage inc	reases o	utput freque	ency.	
Load (Fan out)       15 pF HCMOS max.         Duty Cycle       50% ± 5%. (measured at 50%Vcc)         Output Voltage Logic High (V <sub>0H</sub> )       +4.5 V min.         Output Voltage Logic Low (V <sub>0L</sub> )       +0.5 max.         Rise and Fall Time       5 nS max. (measured at 20% ≠ 80% of waveform)         Reference Voltage Output       +4.0 V <sub>D.C</sub> ±0.3 V <sub>D.C</sub> . or custom.         Phase Noise       Offset       1 Hz       10 Hz       100 Hz       1 KHz       10 KHz         10 MHz AT-cut XTAL       -75 dBc       -100 dBc       -130 dBc       -140 dBc       -150 dBc         Storage Temperature       -55°C to +125°C       2000 G's, 0.3 ms ½ sine       -2000 G's, 0.3 ms ½ sine	0, 10		Input Impedance		100 K ohms mi	100 K ohms min.EFC Linearity±20% max.					
Duty Cycle $50\% \pm 5\%$ . (measured at $50\%$ Vcc)Output Voltage Logic High (V <sub>0H</sub> ) $+4.5$ V min.Output Voltage Logic Low (V <sub>0L</sub> ) $+0.5$ max.Rise and Fall Time $5$ nS max. (measured at $20\% \neq 80\%$ of waveform)Reference Voltage Output $+4.0$ V <sub>D.C</sub> $\pm 0.3$ V <sub>D.C</sub> . or custom.Phase NoiseOffset $1$ Hz $10$ Hz $100$ Hz $1$ KHz $10$ KHzI 0 MHz AT-cut XTAL $-75$ dBc $-100$ dBc $-130$ dBc $-140$ dBc $-150$ dBcStorage Temperaturecolspan="4">colspan="4">colspan="4"	· · · · · · · · · · · · · · · · · · ·				1.0 Watts max.	•					
Output Voltage Logic High (V <sub>0H</sub> )       +4.5 V min.         Output Voltage Logic Low (V <sub>0L</sub> )       +0.5 max.         Rise and Fall Time       5 nS max. (measured at 20% ≠ 80% of waveform)         Reference Voltage Output       +4.0 V <sub>D,C</sub> ±0.3 V <sub>D,C</sub> . or custom.         Phase Noise       Offset       1 Hz       10 Hz       100 Hz       1 KHz       10 KHz         10 MHz AT-cut XTAL       -75 dBc       -100 dBc       -130 dBc       -140 dBc       -150 dBc         10 MHz SC-cut XTAL       -90 dBc       -120 dBc       -140 dBc       -150 dBc       -150 dBc         Storage Temperature       -55°C to +125°C       -2000 G's, 0.3 ms ½ sine       -2000 G's, 0.3 ms ½ sine       -2000 G's, 0.3 ms ½ sine		Load (Fan out)									
I I I I I I I I I I I I I I I I I I I		Duty Cycle			50% ± 5%. (me	easured at 50%	%Vcc)				
Output         Rise and Fall Time         5 nS max. (measured at 20% ≠ 80% of waveform)           Reference Voltage Output         +4.0 V <sub>D.C</sub> ±0.3 V <sub>D.C</sub> . or custom.           Phase Noise         Offset         1 Hz         10 Hz         100 Hz         1 KHz         10 KHz           10 MHz AT-cut XTAL         -75 dBc         -100 dBc         -130 dBc         -140 dBc         -150 dBc           10 MHz SC-cut XTAL         -90 dBc         -120 dBc         -140 dBc         -150 dBc         -150 dBc           Storage Temperature         -55°C to +125°C         -2000 G's, 0.3 ms ½ sine         -2000 G's, 0.3 ms ½ sine         -2000 G's, 0.3 ms ½ sine		Output Voltage Logic High (V <sub>OH</sub> )			+4.5 V min.	+4.5 V min.					
Reference Voltage Output         +4.0 V D.C ± 0.3 V D.C. or custom.           Phase Noise         Offset         1 Hz         10 Hz         100 Hz         1 KHz         10 KHz           10 MHz AT-cut XTAL         -75 dBc         -100 dBc         -130 dBc         -140 dBc         -150 dBc           10 MHz SC-cut XTAL         -90 dBc         -120 dBc         -140 dBc         -150 dBc         -150 dBc           Storage Temperature         -55°C to +125°C         -2000 G's, 0.3 ms ½ sine         -2000 G's, 0.3 ms ½ sine         -2000 G's, 0.3 ms ½ sine		Output Voltage Logic Low (V <sub>OL</sub> )			+0.5 max.						
Offset         1 Hz         10 Hz         100 Hz         1 KHz         10 KHz           Phase Noise         Offset         1 Hz         10 Hz         100 Hz         1 KHz         10 KHz           10 MHz AT-cut XTAL         -75 dBc         -100 dBc         -130 dBc         -140 dBc         -150 dBc           10 MHz SC-cut XTAL         -90 dBc         -120 dBc         -140 dBc         -150 dBc         -150 dBc           Storage Temperature         -55°C to +125°C         -55°C to +125°C         -55°C to +125°C         -55°C to +125°C	Output	Rise and Fall Time			5 nS max. (measured at 20% $\Rightarrow$ 80% of waveform)						
Phase Noise         10 MHz AT-cut XTAL         -75 dBc         -100 dBc         -130 dBc         -140 dBc         -150 dBc           10 MHz SC-cut XTAL         -90 dBc         -120 dBc         -140 dBc         -150 dBc         -150 dBc           Storage Temperature         -55°C to +125°C         -55°C to +125°C         -55°C to +125°C         -55°C to +125°C		Reference Voltage Output			$+4.0 V_{D.C} \pm 0.3 V_{D.C}$ . or custom.						
Noise         10 MHz AT-cut XTAL         -/5 dBc         -100 dBc         -130 dBc         -140 dBc         -150 dBc           10 MHz SC-cut XTAL         -90 dBc         -120 dBc         -140 dBc         -150 dBc         -150 dBc           Storage Temperature         -55°C to +125°C         -55°C to +125°C         -55°C to +125°C         -55°C to +125°C					1 Hz	10 Hz	100 H:	Z	1 KHz	10 KHz	
IO MHz SC-cut XTAL       -90 dBc       -120 dBc       -140 dBc       -150 dBc       -150 dBc         Storage Temperature       -55°C to +125°C       -55°C to +125°C       -55°C to +125°C       -55°C to +125°C         Shock       2000 G's, 0.3 ms ½ sine       -55°C to +125°C       -55°C to +125°C       -55°C to +125°C			10 MHz AT-cut XTAL		-75 dBc	-100 dBc	-130 d	Bc	-140 dBc	-150 dBc	
Shock         2000 G's, 0.3 ms ½ sine			10 MHz SC-cut XTAL		-90 dBc	-120 dBc	-140 d	Bc	-150 dBc	-150 dBc	
	Storage Temperature			-55°C to +125°C							
Vibration         10 to 2000 Hz / 10 G's	Shock			2000 G's, 0.3 ms 1/2 sine							
	Vibration	Vibration			10 to 2000 Hz / 10 G's						

## MERCURY <u>www.mercury-crystal.com</u>

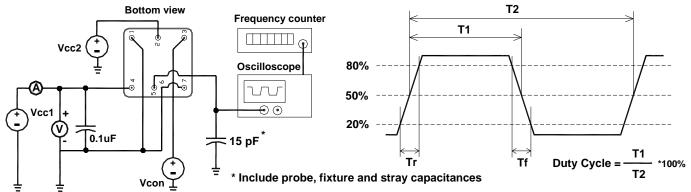
 Taiwan: TEL (886)-2-2406-2779, FAX (886)-2-2496-0769, e-mail: sales-tw@mercury-crystal.com

 U.S.A.: TEL (1)-909-466-0427, FAX (1)-909-466-0762, e-mail: sales-us@mercury-crystal.com

 MERCURY
 Page 1 of 2

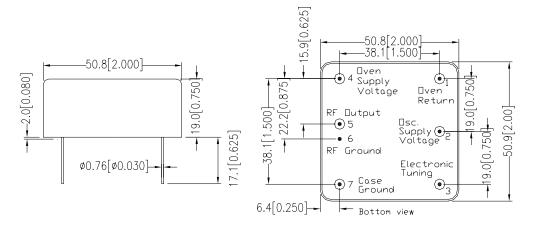
 Date: July 20, 2006
 Rev. 0





## **OC22T Series Package Dimensions and Pin Connections:**

unit mm



## Part Number Format and Example:

Example: 0C22T5S-10.000-0.01/-20+70										
00	22	Т	5	S	_	10.000	_	0.01	/	-20+70
0	0	₿	4	6	dash	6	dash	0	slash	8
<b>①</b> : " <b>0C</b> " Product Prefix for OCXO <b>②</b> : Package type. " <b>22</b> " for OC22 package										
<b>8</b> : Output wave form code. " <b>T</b> " for HCMOS square wave output										
<b>4</b> : Supply voltage code. " <b>5</b> " for $+5.0V$ ; " <b>12</b> " for $+12.0V$										
S: Crystal type. Use "A" for AT-cut crystal; Use "S" for SC-cut crystal.										
<ul><li>G: Frequency in MHz;</li><li>✓: Frequency stability in ppm;</li></ul>										
8:	<b>3</b> : Operating temperature range: $-20^{\circ}$ C to $+70^{\circ}$ C in this case.									

		MERCURY	Page 2 of 2	Date: July 20, 2006	Rev. O
--	--	---------	-------------	---------------------	--------