

T-50-23

# Crystal Clock Oscillators TTL and CMOS

## LOW COST HYBRID DIP CLOCK OSCILLATORS

CRYSTEK Crystal clock oscillators combine the latest technological advances and automated production techniques.

### Some Important Features:

- Low Power Consumption
- Hermetically "resistance weld" sealed
- Reliable, durable, economical

CRYSTEK's 31 years of experience and expertise in crystals and crystal oscillators assures our customers of dependable quality and state-of-the-art designs.

### GENERAL SPECIFICATIONS

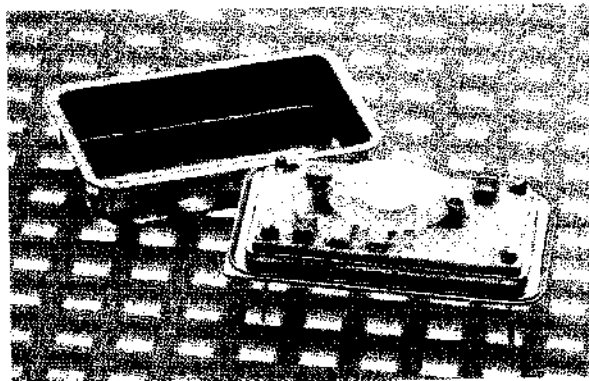
Frequency Tolerances range from  $\pm 1000$  ppm to  $\pm 25$  ppm

Standard Tol.:  $\pm 100$  ppm

Operating Temperature:  $0^\circ - 70^\circ\text{C}$

Storage Temperature:  $-55^\circ$  to  $+125^\circ\text{C}$

Aging:  $\pm 5$ ppm



### OPTIONAL:

- ENABLE/DISABLE AND TRI-STATE (CCO-011 & CCO-032)
- TTL AND C-MOS COMPATIBLE
- C-MOS OSC. & HC-MOS (HIGH SPEED C-MOS) OSC.
- SURFACE MOUNT TYPE OSCILLATORS
- DUAL FREQUENCY OSCILLATOR

CRYSTEK P.T. #	STANDARD SIZE OSC		1/2 SIZE OSC	
	TTL CCO-010	CMOS CCO-020	TTL CCO-015	CMOS CCO-015
FREQ. RANGE	800 KHz - 70 MHz	300 KHz - 70 MHz	300 KHz - 40 MHz	
INPUT VOLTAGE	5.0V $\pm 5\%$ or 10%		5.0V $\pm 10\%$	
INPUT CURRENT	300KHz - 30MHz 30 mA Max.	300KHz - 30MHz 10 mA Max.	30 mA Max.	30 mA Max.
	40 - 70MHz 70 mA Max.	20 - 70MHz 40 mA Max.		
RISE & FALL TIME	300KHz - 10MHz 16 ns Max.	10 ns Max.	6 ns	10 ns Max.
	10 - 70MHz 10 ns Max.			
SYMMETRY	50/50 $\pm 10\%$			
OPERATING TEMP.	TTL: $0^\circ\text{C} - 70^\circ\text{C}$ CMOS: $20^\circ\text{C} - 70^\circ\text{C}$			
FIGURE	FIG. 1		FIG. 2	

Figure 1  
14 PIN DIP PKG.

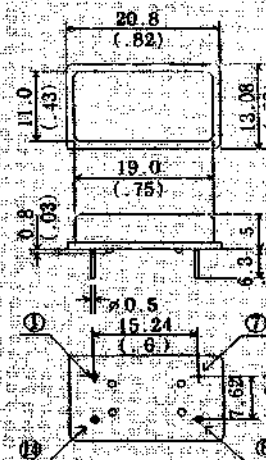
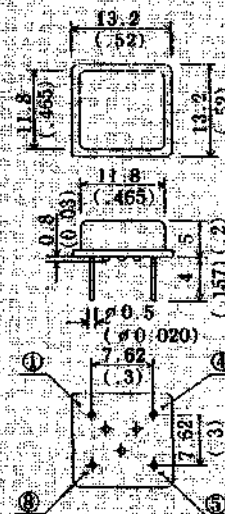
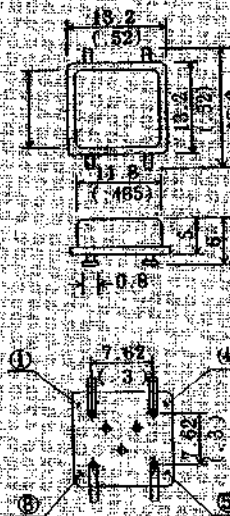


Figure 2  
8 PIN DIP PKG  
HALF SIZE



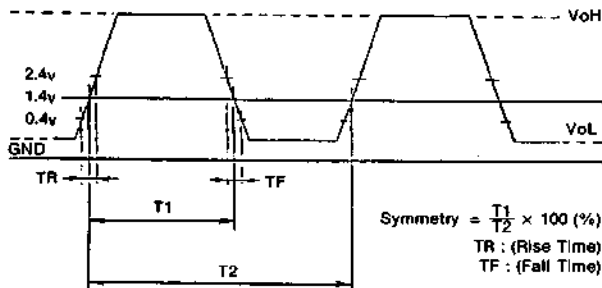
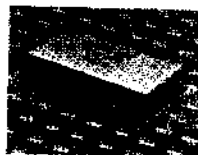
DIMENSIONS — MM  
INCHES

### OPTIONAL (SMD TYPE OSC.)

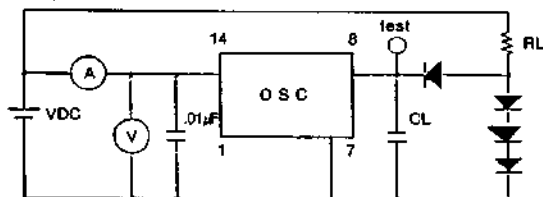


# Output Waveforms/Test Circuits

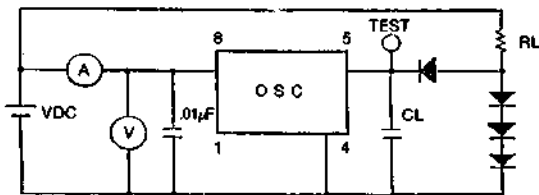
## TTL



(14 PIN TTL OSC.)



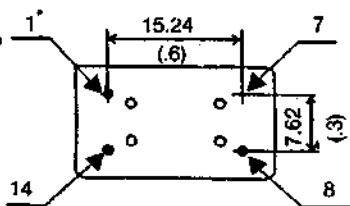
(8 PIN TTL OSC.)



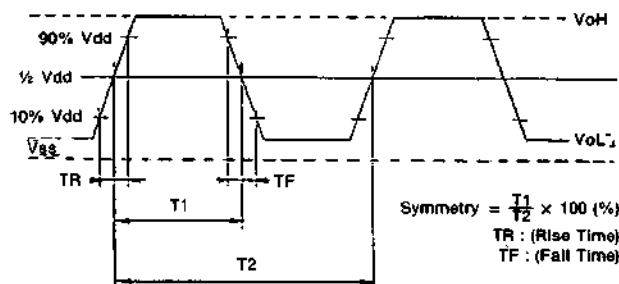
RL : 390 Ω  
CL : 15 pF

### PIN CONNECTIONS 14-DIP

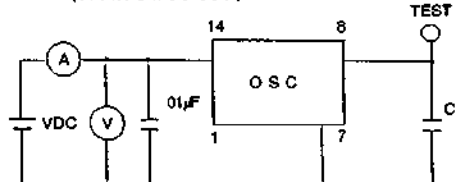
- PIN 1 N/C
- PIN 7 GND
- PIN 8 OUTPUT
- PIN 14 VCC



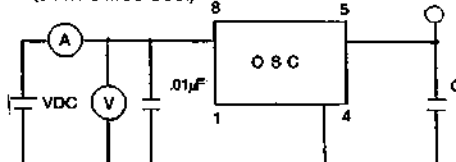
## CMOS



(14 PIN C-MOS OSC.)



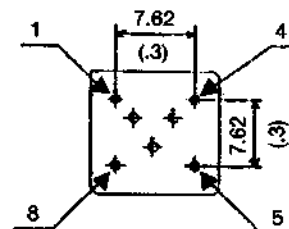
(8 PIN C-MOS OSC.)



CL : 15 pF

### PIN CONNECTIONS 8-DIP

- PIN 1 N/C
- PIN 4 GND
- PIN 5 OUTPUT
- PIN 8 VDD



When your application calls for different oscillators call our sales department for immediate response.