

# **CLOCK OSCILLATORS**

### TTL / HCMOS, TRISTATE

Combine state-of-the-art, thick film hybrid technology with precision quartz oscillators to achieve unsurpassed qualities of small size, cost, high reliability and frequency accuracy.

The crystal clock oscillator is composed of a crystal resonator and an oscillator circuit which is made by the hybrid IC technique. So, the oscillator itself is the perfect stable oscillator. This technique and process are entirely IC's one, so you can expect high reliability on it.

**■** Standard Specifications

KXO-210  DIL 8 $0.5 \sim 100 \text{ MHz}^*$ standard $\pm 100 \text{ ppm}$ available $\pm 25 \text{ ppm} \sim \pm 100 \text{ ppm}$ $-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$ standard $0^{\circ}\text{C} \sim +70^{\circ}\text{C}$ available $-40^{\circ}\text{C} \sim +85^{\circ}\text{C} \ (=\text{KXO-215}) \ (=\text{KXO-405/415})$ standard $60/40\% \ (+1/2V_{DD})$ available $55/45\%$
$0.5 \sim 100 \text{ MHz} *$ $standard \pm 100 \text{ ppm}$ $available \pm 25 \text{ ppm} \sim \pm 100 \text{ ppm}$ $-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$ $standard  0^{\circ}\text{C} \sim +70^{\circ}\text{C}$ $available  -40^{\circ}\text{C} \sim +85^{\circ}\text{C} \; (=\text{KXO-215}) \; \; (=\text{KXO-405/415})$ $standard  60/40\% \; (+1/2\text{V}_{DD})$ $available  55/45\%$
standard $\pm$ 100 ppm available $\pm$ 25 ppm $\sim$ $\pm$ 100 ppm $-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$ standard 0°C $\sim$ +70°C available -40°C $\sim$ +85°C (=KXO-215) (=KXO-405/415) standard 60/40% (+1/ $_2\text{V}_{DD}$ ) available 55/45%
available $\pm 25 \text{ ppm } \sim \pm 100 \text{ ppm}$ $-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$ $\text{standard} \qquad 0^{\circ}\text{C} \sim +70^{\circ}\text{C}$ $\text{available} \qquad -40^{\circ}\text{C} \sim +85^{\circ}\text{C} \; (=\text{KXO-215}) \; \; (=\text{KXO-405/415})$ $\text{standard} \qquad 60/40\% \; (+1/2\text{V}_{DD})$ $\text{available} \qquad 55/45\%$
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available 55/45%
10 ns 0.5 ~ 25 MHz 6 ns 25.1 ~ 70 MHz 4 ns 70.1 ~ 100 MHz
+0.5V (10%V <sub>DD</sub> )
+ 4.5V (90%V <sub>DD</sub> )
+5.0VDC ± 10%
20mA 0.5 ~ 20MHz 40mA 20.1 ~ 70MHz 60mA 70.1 ~100MHz
1 - 8 TTL or CL = 50pF (TYP)
TTL & HCMOS compatible
fig. 3, 4
# 1 (#1): N/C # 7 (#4): CASE GND # 8 (#5): OUTPUT #14 (#8): +V <sub>DD</sub>
40 pcs.
12.91500~12.91999

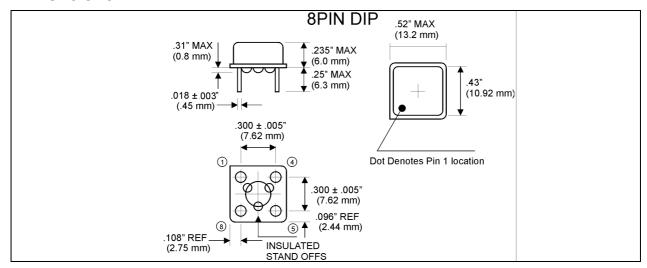
<sup>\* &</sup>gt; 100,0 MHz on request

Z: high impedance

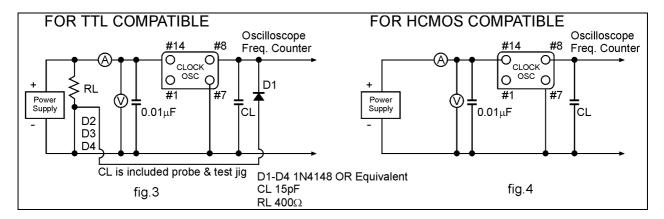
Enable/Disable Phase Delay Time 100 ns max.



#### **Dimensions**



#### **Test Circuit**



## **Output Wave Shape**

