

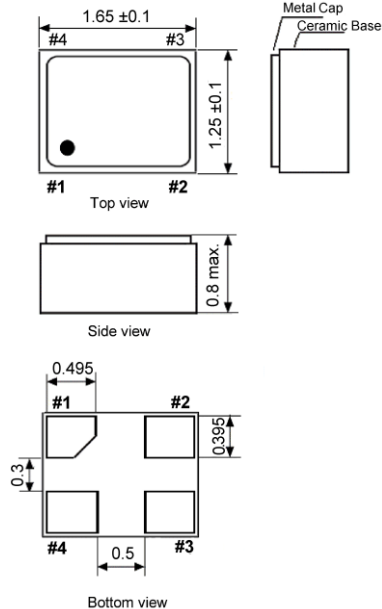


## Clock Oscillator SMD-version

+1.8 | +2.5 | +2.8 | +3.0 | +3.3 V

part no.	12.xxxxx						
model	KXO-V93T						
frequency range	2.0 ~ 80.0 MHz						
frequency stability at -20° ~ +70°C; -40° ~ +85°C -40° ~ +105°C; -40° ~ +125°C	±25 ppm, ±50 ppm ±30 ppm; ±50 ppm						
operating temperature range	standard -40° ~ +85°C available -20° ~ +70°C (= KXO-V93); -40° ~ +105°C (= KXO-V93E); -40° ~ +125°C (= KXO-V93F)						
storage temperature range	-55° ~ +125°C						
supply voltage range	+1.8 V ~ +3.6 V						
supply voltage V <sub>DD</sub>	+1.8 V DC ±5 %, +2.5 V DC ±5 %, +2.8 V DC ±5 %, +3.0 V DC ±5 % or +3.3 V DC ±5 %						
supply current typ. / max.		+1.8 V		+2.5 V / +2.8 V		+3.0 V / +3.3 V	
	1.0 ~ 20.0 MHz	1.1 mA	4.0 mA	1.3 mA	4.0 mA	2.0 mA	5.0 mA
	20.1 ~ 39.9 MHz	1.8 mA	5.0 mA	2.5 mA	5.0 mA	3.4 mA	7.0 mA
	40.0 ~ 69.9 MHz	3.5 mA	7.0 mA	4.4 mA	10.0 mA	5.7 mA	12.0 mA
	70.0 ~ 80.0 MHz	6.0 mA	13.0 mA	8.0 mA	15.0 mA	13.0 mA	20.0 mA
symmetry	45 % ~ 55 % at 50 % V <sub>DD</sub> level						
rise & fall time max.	8 ns (10 % V <sub>DD</sub> ~ 90 % V <sub>DD</sub> level)/V <sub>DD</sub> = +1.8 V 5 ns (10 % V <sub>DD</sub> ~ 90 % V <sub>DD</sub> level)/V <sub>DD</sub> = +2.5 V, +2.8 V, +3.0 V, +3.3 V						
"0" level max.; "1" level min.	V <sub>OL</sub> : 10 % V <sub>DD</sub> ; V <sub>OH</sub> : 90 % V <sub>DD</sub>						
tri-state control voltage (Pin#1)	V <sub>IH</sub> : V <sub>DD</sub> x 0.7 min.; V <sub>IL</sub> : V <sub>DD</sub> x 0.3 max.						
output load max.	15pF HCMOS						
start up time max.	10 ms						
disable/enable delay time max	200 ns / 10 ms						
stand by current max.	10 µA (Pin #1 = V <sub>IL</sub> )						
jitter max.	deterministic jitter	5 ps	norm 1-sigma	7 ps			
	random jitter	7 ps	peak to peak	40 ps			
contents of reel	1000 pcs. / 3000 pcs.						

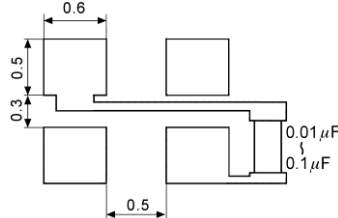
### Dimensions (mm):



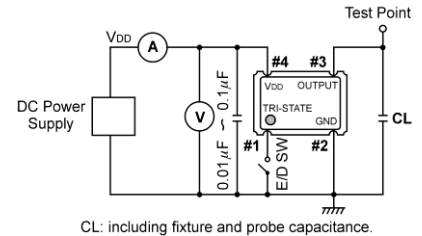
PIN	Connection
1	"L" (0V) "H" or OPEN
2	GND
3	Z OUTPUT
4	V <sub>DD</sub>

Z: high impedance

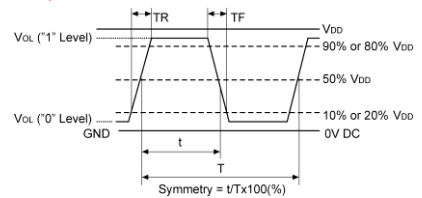
### Suggested soldering pad:



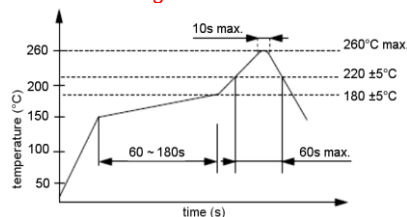
### Test circuit:



### Output Waveform:



### Reflow soldering condition:



### Tape specification:

