



## GEYER KXO-V96 Features and Applications:

- Oscillator with supply voltage range +1.8 V ~ +3.6 V
- Package size: 3.2 x 2.5 x 1.2 mm, 4 pad footprint
- Frequency range: 1.0 ~ 160.0 MHz
- Moisture Sensitivity Level, MSL Level 1
- Recommended for Industrial, IoT, Embedded, Automotive, Networking, Precision Comms, SMART applications, etc.
- For further requirements, please contact us



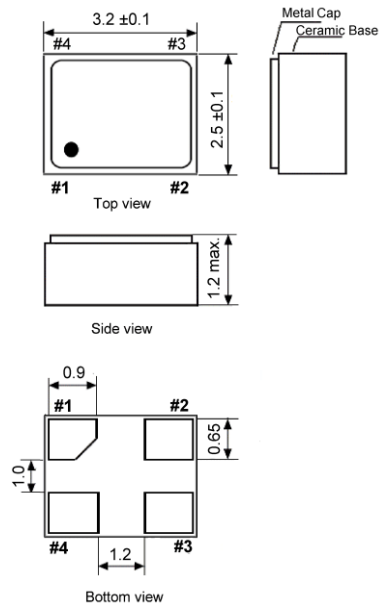
## Clock Oscillator SMD-version

+1.8 / +2.5 / +2.8 / +3.0 / +3.3 V

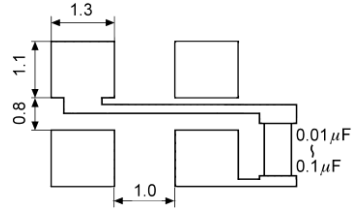
|                                                                                      |                                                                                                                                                                                                |         |         |                 |         |                 |         |
|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|-----------------|---------|-----------------|---------|
| part no.                                                                             | 12.xxxxx                                                                                                                                                                                       |         |         |                 |         |                 |         |
| model                                                                                | KXO-V96                                                                                                                                                                                        |         |         |                 |         |                 |         |
| frequency range                                                                      | 1.0 ~ 160.0 MHz                                                                                                                                                                                |         |         |                 |         |                 |         |
| frequency stability at<br>-20° ~ +70°C; -40° ~ +85°C<br>-40° ~ +105°C; -40° ~ +125°C | ±25 ppm, ±50 ppm<br>±30 ppm; ±50 ppm                                                                                                                                                           |         |         |                 |         |                 |         |
| operating temperature range                                                          | standard -20° ~ +70°C<br>available -40° ~ +85°C (=KXO-V96T); -40° ~ +105°C (=KXO-V96E); -40° ~ +125°C (=KXO-V96F)                                                                              |         |         |                 |         |                 |         |
| 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 ~ 20.0MHz                                                                                                                                                                                  | 1.1 mA  | 4.0 mA  | 1.3 mA          | 4.0 mA  | 2.0 mA          | 5.0 mA  |
|                                                                                      | 20.1 ~ 39.9MHz                                                                                                                                                                                 | 1.8 mA  | 5.0 mA  | 2.5 mA          | 5.0 mA  | 3.4 mA          | 7.0 mA  |
|                                                                                      | 40.0 ~ 69.9MHz                                                                                                                                                                                 | 3.5 mA  | 7.0 mA  | 4.4 mA          | 10.0 mA | 5.7 mA          | 12.0 mA |
|                                                                                      | 70.0 ~ 99.9MHz                                                                                                                                                                                 | 6.0 mA  | 13.0 mA | 8.0 mA          | 15.0 mA | 13.0 mA         | 20.0 mA |
|                                                                                      | 100.0 ~ 129.9 MHz                                                                                                                                                                              | 8.0 mA  | 15.0 mA | 10.0 mA         | 20.0 mA | 14.0 mA         | 25.0 mA |
|                                                                                      | 130.0 ~ 160.0 MHz                                                                                                                                                                              | 10.0 mA | 20.0 mA | 14.0 mA         | 25.0 mA | 18.0 mA         | 30.0 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<br>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 |         |         |                 |         |                 |         |
| "O" 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.                                                                     | 15 pF 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.                                                                                                                                                                          |         |         |                 |         |                 |         |



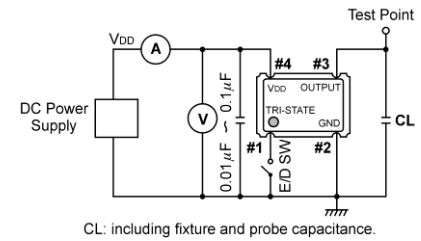
## Dimensions (mm):



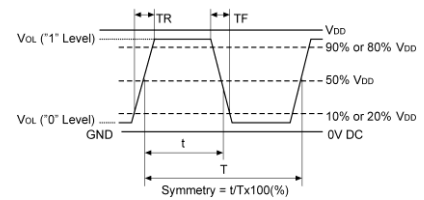
## Suggested soldering pad:



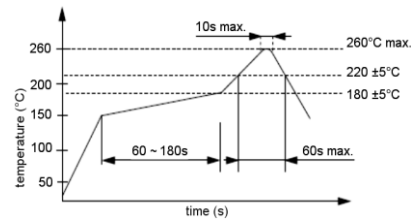
## Test circuit:



## Output Waveform:



## Reflow soldering condition:



## Tape specification:

