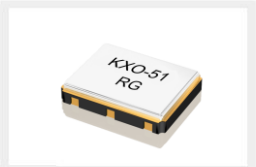


RoHS 2015/863/EU REACH compliant Conflict minerals free

GEYER quartz technology

## GEYER KXO-51 Features and Applications:

- Ultra Low Jitter HCSL Differential Oscillator
- Package size: 3.2 x 2.5 x 1.0 mm, 6 pad footprint
- Frequency range: 100.0 ~ 175.0 MHz
- Ultra low phase noise
- Moisture Sensitivity Level, MSL Level 1
- Recommended for GPS (PCIe), Entertainment systems (PCIe), etc
- For further requirements, please contact us

# HCSL Clock Oscillator SMD-version +1.8 / +2.5 / +3.3 V

| | |
|---|---|
| part no. | 12.xxxxx |
| model | KXO-51 |
| frequency range | 100.0 ~ 175.0 MHz |
| frequency stability incl. temperature stability, input voltage and load stability, aging. | ±20, ±25, ±50, ±100 ppm over -20°C ~ +70°C / -40°C ~ +85°C (referred to +25°C) |
| output load | 50 Ohm to ground on each output |
| operating temperature | -20° ~ +70°C, -40° ~ +85°C (=KXO-51T) |
| storage temperature | -55° ~ +150°C |
| supply voltage | +1.8 V DC ±10 %, +2.5 V DC ±10 % or +3.3 V DC ±10 % |
| output voltage level | $V_{OL}$: 0.15 V min. / $V_{OH}$: 1.0 V max. |
| output swing (single-ended) | 450 mV (min) |
| supply current typ./max. | 38 mA / 48 mA |
| start-up time typ./max. | 1 ms / 5 ms |
| symmetry | 50 % ±5 % |
| rise time (Tr) / fall time (Tf) typ./max. | 0.2 ns / 0.6 ns (Output level 20 % ~ 80 % of waveform) |
| aging ((referred to +25°C) max | ±3 ppm first year, ±2 ppm following years |
| disable delay/enable delay time max. | 200 ns / 10 ms |
| enable/disable (Pin 1) input voltage | 30 % $V_{DD}$ max.: output disable / 70 % $V_{DD}$ min.: output enable |
| tristate function | yes |
| RMS jitter (12 kHz ~ 20 MHz) typ./max. | 50 fs/300 fs |
| phase noise typ. (125MHz) | -114 dBc / Hz at 100 Hz<br>-135 dBc / Hz at 1 kHz<br>-147 dBc / Hz at 10 kHz<br>-157 dBc / Hz at 100 kHz<br>-163 dBc / Hz at 1 MHz<br>-164 dBc / Hz at 10 MHz |
| contents of reel | 3000 pcs. |

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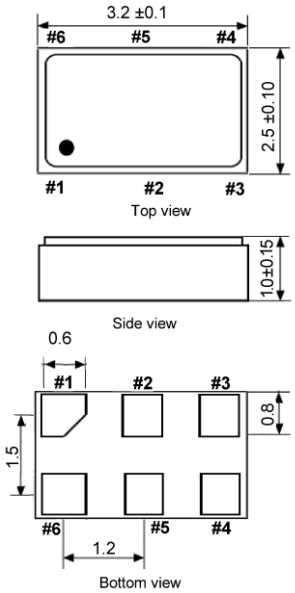
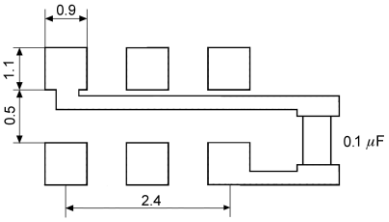
## Dimensions (mm):



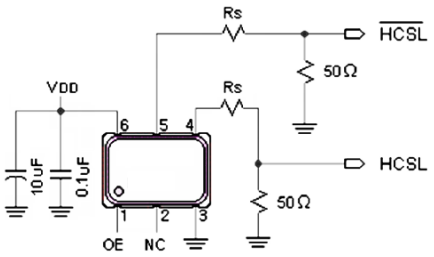

## Suggested soldering pad:




Note:
Capacitors of value 0,1 µF and 10 µF between $V_{DD}$ and GND are recommended.

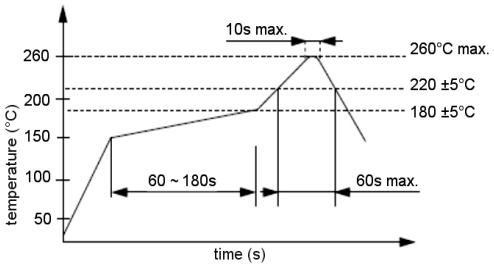
| PIN | Connection |
|---|---|
| 1 | Tri-state |
| 2 | NC |
| 3 | GND |
| 4 | Output |
| 5 | C-Output |
| 6 | $V_{DD}$ |

## Test circuit:

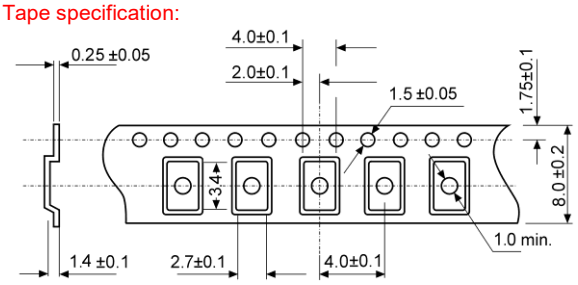



Rs = 0 to 33 Ω to minimize ringing in application

## Reflow soldering condition:




## Tape specification:




reel diameter 178 mm

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