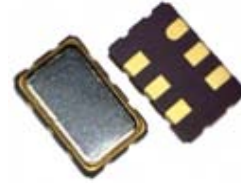


SMD HCSL output
5.0 x 3.2 x 1.2 mm



RoHS Compliance

Features

- Ultra Small SMD seam sealed clock crystal oscillator units.
- Tri-state function available on pad No. 1.

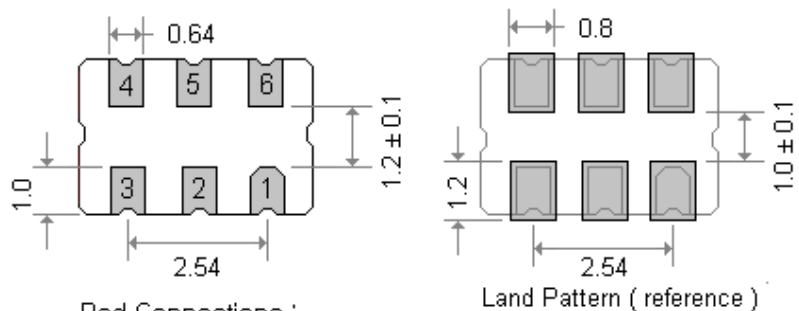
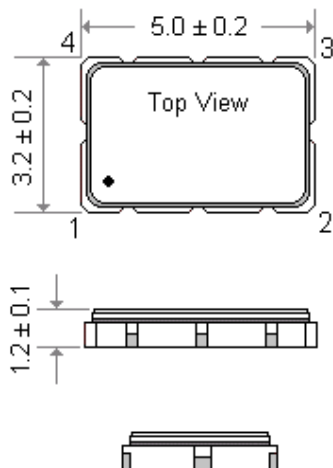
Applications

- HCK femto second integrated phase jitter (200 fs typical , 12 KHz to 20 MHz) .
- HCK superior phase noise (-138 dBc/Hz at 10 KHz and -144 dBc/Hz at 100 KHz offset) .
- 2.5 V or 3.3 V supply voltage .

General Specifications

| Parameters | | Electrical Spec. | | | | | | | |
|---|--|--|----------|-----------|--|--------|--------|-------|--------|
| Input Voltage (V _{DD}) | | 2.5 V ± 5 % | | | | | | | |
| Frequency Range / Load | | 13.5 MHz ~ 200,0 MHz | | | | | | | |
| Output Wave Form | | HCSL output | | | | | | | |
| Output Logic High " 1 " | min. | 550 mV | | | | | | | |
| | typical | 690 mV | | | | | | | |
| | max. | 800 mV | | | | | | | |
| Output Logic Low " 0 " | min. | -160 mV | | | | | | | |
| | typical | 0 mV | | | | | | | |
| | max. | 150 mV | | | | | | | |
| Integrated Phase Noise (12 KHz to 20 MHz) | | 0.2 ps (typical) ; 0.5 ps (max.) | | | | | | | |
| Rise Time (Tr) / Fall Time (Tf) | | 0.3n sec.(typical) ; 0.7 n sec. (max.) | | | | | | | |
| Output Voltage Swing | | 600 mV min. (V _{DD} = +2.5V) | | | | | | | |
| Duty Cycle | | 50% ± 10% [50% ± 5% is also available] | | | | | | | |
| Load | | 50 Ω into Vcc - 2V or Thevenin equivalent | | | | | | | |
| Current Consumption (15 pF load) | | 30 mA (typical) , 50 mA (max.) | | | | | | | |
| Start - Up Time (Ts) | | 10 m sec.(typical) | | | | | | | |
| Storage Temperature | | - 50°C to 100°C | | | | | | | |
| Aging | | ± 3 ppm per year (max.) | | | | | | | |
| Frequency Stability ⁽¹⁾ Codes | Frequency Stability over Operating Temperature Range | ± 25 ppm | ± 50 ppm | ± 100 ppm | If non-standard , please enter the desired stability after the " C " or " I " For example : " C20 " ±20 ppm over -10°C to +70°C ; " I20 " ± 20 ppm over -40°C to +85°C | | | | |
| | Commercial (-10°C to +70°C) | A | B | C | | | | | |
| | Industrial (-40°C to +85°C) | D | E | F | | | | | |
| Phase Noise (typical) [156.250 MHz] | | Offset | 10 Hz | 100 Hz | 1K Hz | 10 KHz | 100KHz | 1 MHz | 10 MHz |
| | | dBc / Hz | -75 | -90 | -120 | -135 | -142 | -147 | -155 |

Outline Dimensions (Unit : mm)



- Pad Connections :
- Pad 1 : Tri - state
 - Pad 2 : No connection
 - Pad 3 : Ground
 - Pad 4 : Output
 - Pad 5 : Complimentary output
 - Pad 6 : Supply voltage