



Features and Benefits

- 14DIP Compatible 8mm Height Packaging
- Very Low Power Consumption: 0.15W at +25°C
- Fast Warming-up: 60 s typical
- Low Aging: +/-3.0 ppb/day, +/-300 ppb/year

Typical Applications

- Portable Wireless Communications
- Mobile Test equipment
- Synthesizers
- Battery Powered Application

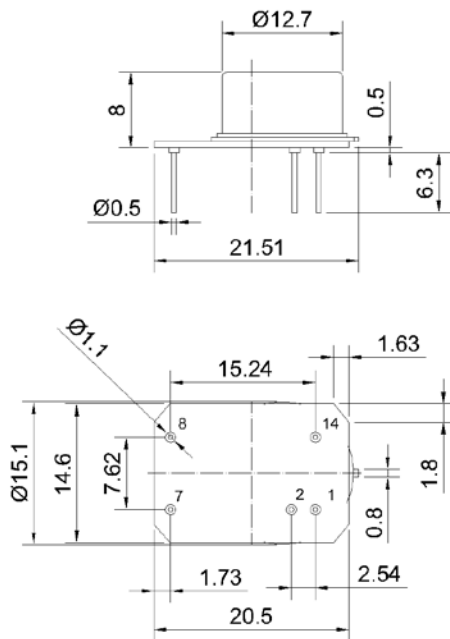
Description

The OCXO3307LP-42.8MHz-A-V utilizes the internal heating resonator (IHR) technology incorporating the whole oven system together with the crystal plate inside the TO-8 vacuum holder. Such an OCXO concept results in radical reduction of its volume, power consumption and warm-up time. In spite of the miniature sizes and extremely low power consumption such oscillators exhibit excellent temperature stability, low phase-noise and aging rate being at the level of high-end OCXOs using conventional oven designs.

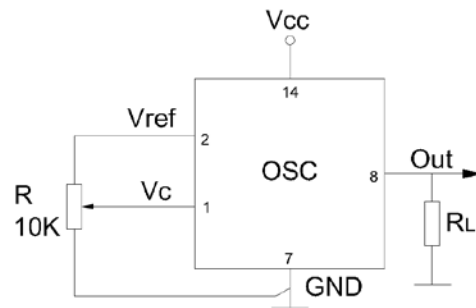
Mechanical Drawing & Pin Connections

Drawing No: MD140075-1

Physical dimensions



Schematic connections



| Pin | Signal |
|-----|-------------------|
| 1 | Electrical tuning |
| 2 | Reference voltage |
| 7 | GND |
| 8 | RF Out |
| 14 | +V Supply |

Unit : mm



Specifications

| Oscillator Specification | Sym | Condition | Value | | | Unit | Note |
|---------------------------------|---|---|--------|-----------|--------|--------|--------------------------------|
| | | | Min. | Typ. | Max. | | |
| Operational Frequency | F _{nom} | | | 42.800000 | | MHz | |
| Initial tolerance | | at +25°C, V _c =V _{co} | -0.2 | | +0.2 | ppm | |
| RF Output | | | | | | | |
| Waveform : LVCMOS | | | | HCMOS | | | |
| Load | | 5 pF in parallel with 10K | | 5//10K | | pF//K | |
| H-level voltage | | V _{cc} =3.3V | 2.4 | | | V | |
| L-level voltage | | | | | 0.4 | V | |
| Duty cycle | | | 45 | | 55 | % | |
| Rise/Fall time | | | | | 10 | ns | |
| Sub-harmonics level | | | | none | | | |
| Frequency control | | | | | | | |
| Control voltage range | V _c | | 0 | | 2.8 | V | |
| Frequency Turning Range | | | +/-0.5 | +/-1 | - | ppm | + |
| Reference Voltage | V _{ref} | | | 2.8 | | V | |
| Power Supply | | | | | | | |
| Voltage | V _{cc} | | | 3.3 | | V | |
| Power consumption | | Warm-up state | | 0.7 | | W | |
| | | @ +25°C steady state | | 0.15 | | | |
| Warm-up Time: | T _{up} | to Δf/f = 1e ⁻⁷ at +25°C | | 60 | | s | ref. to frequency after 15 min |
| Frequency Stability | | | | | | | |
| Vs. Temperature | | Ref. 25°C | | | +/- 30 | ppb | |
| Vs. Supply Voltage | | Ref V _{cc} typ. | | +/-2 | | ppb | |
| vs. direction | | worst direction | | | +/-1 | ppb/g | |
| Aging | per day | after 30days of operation | | | +/-3 | ppb | |
| | first year | | | | +/-300 | ppb | |
| SSB Phase noise | | 1 Hz | | -75 | | dBc/Hz | |
| | | 10 Hz | | -105 | | | |
| | | 100 Hz | | -125 | | | |
| | | 1 KHz | | -145 | | | |
| | | 10KHz | | -155 | | | |
| | | 100 KHz | | -160 | | | |
| Environmental Conditions | | | | | | | |
| Storage temperature range | -60°C to 90°C | | | | | | |
| Operating temperature range | -40°C to 85°C | | | | | | |
| Humidity | Non-condensing 95% | | | | | | |
| Mechanical Shock | MIL-STD-202, 30G half sine pulse, 11 ms | | | | | | |
| Vibration | MIL-STD-202, 5G swept sine, 10 to 2000 Hz | | | | | | |
| Washing Conditions | Washing with water or alcohol based detergent allowed only with final enough drying stage | | | | | | |
| Soldering Conditions | Hand solder only – not reflow compatible 260°C 10s(on pins) | | | | | | |