

OCXO Model: OS400-10 series

Issue 2; 26th April 2022

Features

- Temperature stability to ± 5 ppb
- Very low phase noise
- Standard frequency range (1 to 150) MHz
- Low pre-aged options available
- Industry standard package
- The flexible nature of the design means that variations to suit almost any application can be developed to meet individual customer requirements



Option A

- Temperature stability: ± 5 ppb over (0 to +50) $^{\circ}$ C
- Output: CMOS 15pF, 45% 50% or Sinewave 0dBm
- Voltage: 3.3V 5.0V 12.0V
- Warm up current: 750mA 470mA 270mA
- Quiescent current: 320mA 220mA 120mA

Option B

- Temperature stability: ± 10 ppb over (-20 to +70) $^{\circ}$ C
- Output: CMOS 15pF, 45% 50% or Sinewave 0dBm
- Voltage: 3.3 5.0V 12.0V
- Warm up current: 750mA 470mA 270mA
- Quiescent current: 320mA 220mA 120mA

Option C

- Temperature stability: ± 20 ppb over (-40 to +70) $^{\circ}$ C
- Output: CMOS 15pF, 45% 50% or Sinewave 0dBm
- Voltage: 3.3V 5.0V 12.0V
- Warm up current: 750mA 470mA 270mA
- Quiescent current: 320mA 220mA 120mA

Phase Noise (typical)

- $F_{O_0}+10$ Hz -130 dBc/Hz
- $F_{O_0}+100$ Hz -150 dBc/Hz
- $F_{O_0}+1$ KHz -165 dBc/Hz
- $F_{O_0}+10$ KHz -175 dBc/Hz
- $F_{O_0}+100$ KHz -178 dBc/Hz

Values based on a 10MHz unit

Voltage /Load change

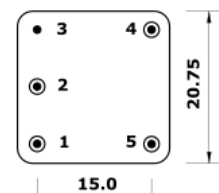
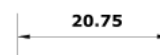
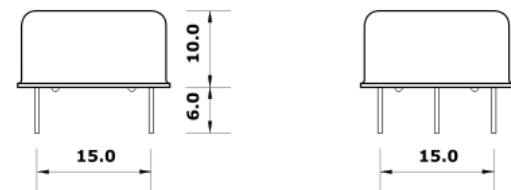
- $\pm 5\%$ supply voltage change: ± 2 ppb
- $\pm 10\%$ load change: ± 10 ppb

Ageing

Based on 10MHz unit after 30 days continuous operation:

- Per day: ± 0.1 ppb max.

Dimensions (mm)

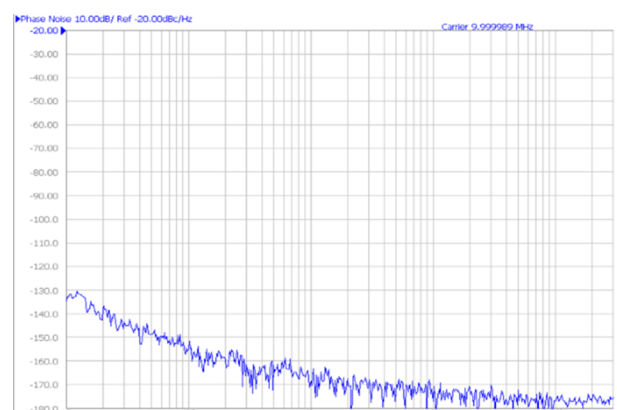


PIN CONNECTIONS

- #1: Vcc
- #2: Output
- #3: Ground/Case
- #4: Trim/Tune
- #5: Vref if fitted

Pins viewed from the bottom
pin diameter 0.45 mm

Phase Noise Plot



- Per year: ± 50 ppb max.
- Warm up time: 5 minutes to within ± 1 ppm

Voltage Trim

- ± 0.5 ppm minimum
- Trim impedance 50K Ω

Reference Options

- 3V for 3.3V supply
- 4.5V for 5V supply
- 4.5V for 12V supply

Environmental

- Electrostatic-Sensitive Device (ESD)
- Storage Temperature Range: (-40 to +125) $^{\circ}$ C
- Mechanical shock: MIL standard 202F, method 213, condition J
- Thermal shock: MIL standard 202F, method 107, condition A
- Vibration: MIL standard 202F, method 204, condition B
- Solderability: 5 seconds maximum at 230 $^{\circ}$ C
- 3 seconds maximum at 350 $^{\circ}$ C

Compliance

- RoHS Status (2011/65/EU) - Compliant
- REACH Status - Compliant

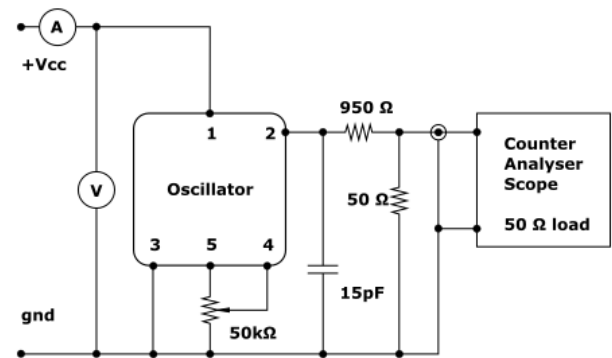
Packaging

- Pack Style: Bulk

Ordering Information

- Unique customer part number and custom specification issued with each application
- OCXO Model : OS400-10
- Frequency Range : (1 to 150) MHz
- Stability/Output/Voltage Option: A, B or C
- Supply voltage code: V1 = +3.3Vd.c supply
- V2 = +5Vd.c. supply
- V3 = +12Vd.c. supply
- Add suffix (R) for Vref output on pin #5

Test Circuit - CMOS Load



Test Circuit - Sinewave

