

OCXO Model: OS936M-10 series

Issue 2; 26th April 2022

Features

- Temperature stability to ± 5 ppb
- Very Low phase noise options
- Standard frequency range (150 to 1000) MHz multiplied
- Low multiplier sub-harmonics
- Low pre-aged options available
- Industry standard Euro 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: 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: Sinewave 0dBm
- Voltage: 3.3V 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: Sinewave 0dBm
- Voltage: 3.3V 5.0V 12.0V
- Warm up Current: 750mA 470mA 270mA
- Quiescent current: 320mA 220mA 120mA

Harmonics

- harmonics -30 dBc
- Sub harmonics -40 dBc

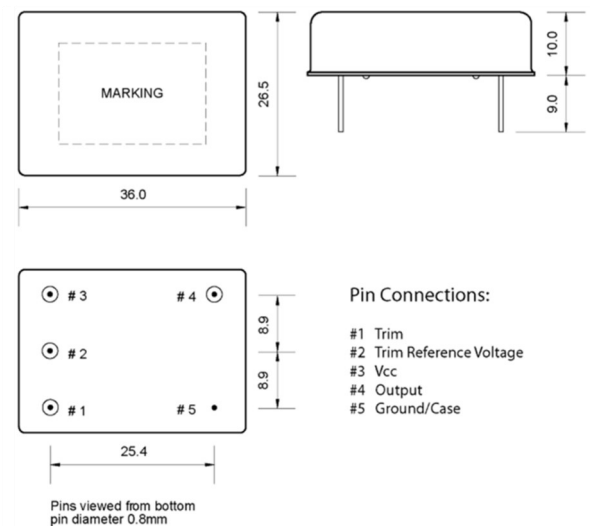
Phase Noise (typical)

- $F_{O_0}+10$ Hz -80 dBc/Hz
- $F_{O_0}+100$ Hz -110 dBc/Hz
- $F_{O_0}+1$ KHz -135 dBc/Hz
- $F_{O_0}+10$ KHz -145 dBc/Hz
- $F_{O_0}+100$ KHz -150 dBc/Hz

Values based on a 400MHz unit



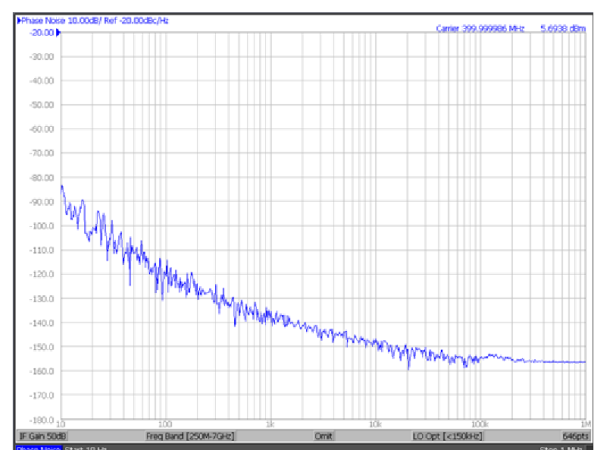
Dimensions (mm)



Pin Connections:

- #1 Trim
- #2 Trim Reference Voltage
- #3 Vcc
- #4 Output
- #5 Ground/Case

Phase Noise Plot



Voltage / Load change

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

Ageing

Based on 10MHz unit after 30 days continuous operation:

- Per day: ±0.1ppb max.
- Per year: ±50ppb max.
- Warm up time: 5 minutes to within 1 ppm

Voltage Trim

- 0.5ppm minimum
- Trim impedance 100KΩ

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)°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°C
- 3 seconds maximum at 350°C

Compliance

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

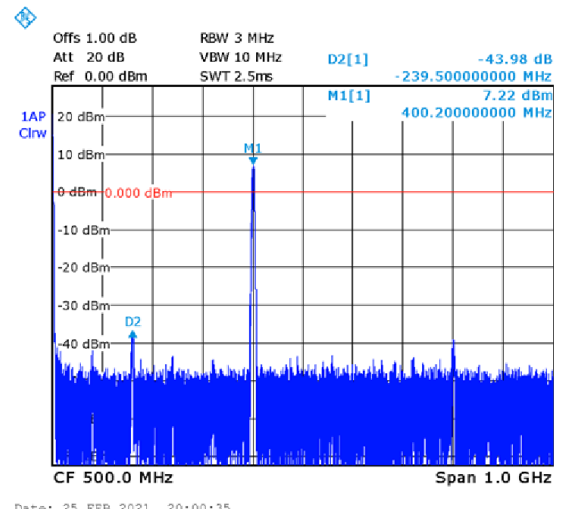
Packaging

- Pack Style: Bulk

Ordering Information

- Unique customer part number and custom specification issued with each application
- OCXO model: OS936M-10
- Frequency: (150 to 1000) MHz multiplied
- Stability/Output/Voltage Option: A, B or C
- V2* supply voltage code: V2 = +5Vd.c. supply
- Add suffix (R) for Vref output on pin #2

Typical Harmonic Data (400 MHz unit)



Test Circuit - Sinewave

