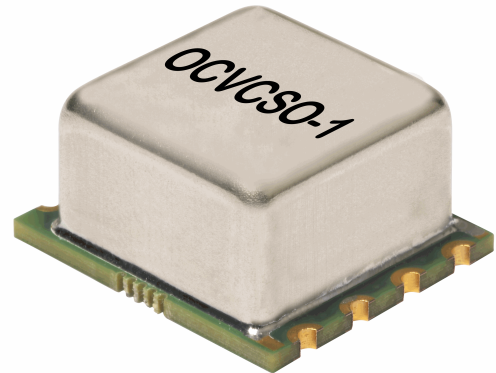


ISSUE 2; March 2020

Description

- A low noise and low power OCVCSO (Oven Controlled, Voltage controlled, SAW Oscillator) at 800MHz, powered by a low voltage 5V power supply. The 800MHz signal is generated from a 400MHz fundamental frequency, followed by a low noise frequency doubler. It is designed for lab environment (test equipment, shelter, ground based military equipment). Manufactured for us by Rakon.



Frequency Parameters

- Frequency: 800.0MHz
- Frequency Tolerance Max: ± 0.50 ppm
- Tolerance Condition: @ 25°C
- Frequency Stability: ± 3.00 ppm to ± 4.00 ppm
- Ageing: ± 1 ppm max in 1st year, ± 6 ppm max in 10yrs
- G-sensitivity (on each axis): 1ppb/g typ, 2ppb/g max

Electrical Parameters

- Supply Voltage: 5.0V ± 0.25 V
- Power Consumption: Warm Up: 2.0W typ, 2.5W max; Steady State (@ 25°C): 1.0W typ, 1.5W max
- Warm Up Time (± 1 ppm with reference to frequency reached after 1hr of continuous operation at -25°C): 3 minutes max.
- Supply Voltage, Absolute Maximum Rating: +6V

Frequency Adjustment

- Pulling: ± 6 ppm min to ± 10 ppm typ
- Control Voltage: 2.5V ± 2.0 V
- Input Impedance: 10k Ω min
- Slope (Positive): 5ppm/V typ, 3ppm/V min

Operating Temperature Ranges

- 0 to 50°C
- 25 to 60°C

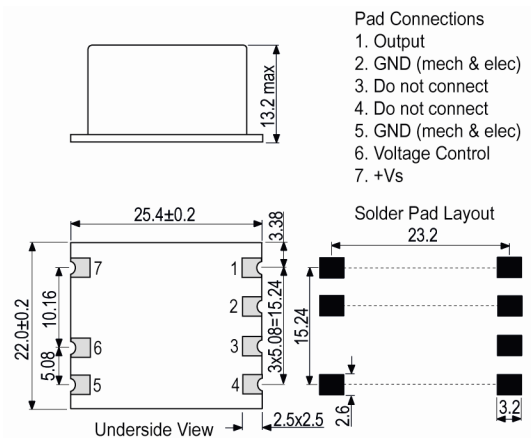
Output Details

- Output Compatibility: Sinewave
- Drive Capability: 50 Ω (@ <1.3:1 VSWR)
- Output level: 8dBm ± 2 dBm
- Output impedance (@ 800MHz ± 1 MHz): <2.0:1 VSWR

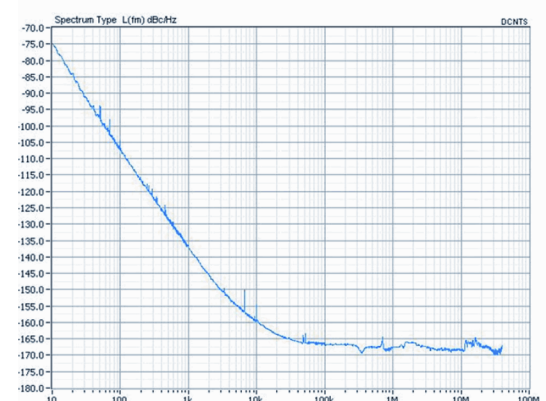
Noise Parameters

- Phase Noise (static condition at 25°C, guaranteed values over full temperature range):
 - (@ 1kHz): -137dBc/Hz typ, -130dBc/Hz max guaranteed
 - (@ 10kHz): -160dBc/Hz typ, -155dBc/Hz max guaranteed
 - (@ 1MHz): -167dBc/Hz typ, -165dBc/Hz max guaranteed
- Harmonic Distortion (all sub-harmonics, 2nd and 3rd harmonics): -40dBc typ, -30dBc max
- Spurious (Non Harmonic): -80dBc max
- Jitter:
 - Full offset range from 10Hz to 100MHz: 100fs typ, 200fs max
 - Broadband: from 10kHz to 100MHz: 10fs max

Outline (mm)



Example Phase Noise



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Environmental Parameters

- Start-up temperature range (with reduced performance): -40 to 60°C
- Storage Temperature Range: -40 to 85°C
- Shock: as per MIL-PRF-28800F, Class 3, test equipment.
- Random Vibration: As per MIL-PRF-28800F, Class 3, test equipment.

Manufacturing Details

- Reliability (ref MIL-HDBK-217F, Ground fixed, at 25°C):
FIT: 6018 fails/10⁹ hours typ
MTBF: 19 years typ
- RoHS Reflow 240°C max for 30secs max

Compliance

- RoHS Status (2015/863/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): 3

Packaging Details

- Pack Style: Bulk Loose in bulk pack
Pack Size: 1

Electrical Specification - maximum limiting values 5.00V ±0.25V

Frequency Min	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
	°C	ppm	mA	ns	%
800.0MHz	-25 to 60	±4.00	-	-	-
	0 to 50	±3.00	-	-	-

*This document was correct at the time of printing; please contact your local sales office for the latest version.
[Click to view latest version on our website.](#)*

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