



100.000 MHz LPN / LGS SMD (VC)OCXO

DESCRIPTION:

O.40.803188-LF is a 100.000 MHz high performance 'Oven Controlled Crystal Oscillator' (VC)OCXO offering **low phase noise (LPN)**, **low G sensitivity (LGS)** and tight frequency stability down to ± 50 ppb (-20 °C to $+70$ °C). The part comes in a small sized hermetically sealed thruhole package what makes it also suitable for humid environmental conditions.

FEATURES:

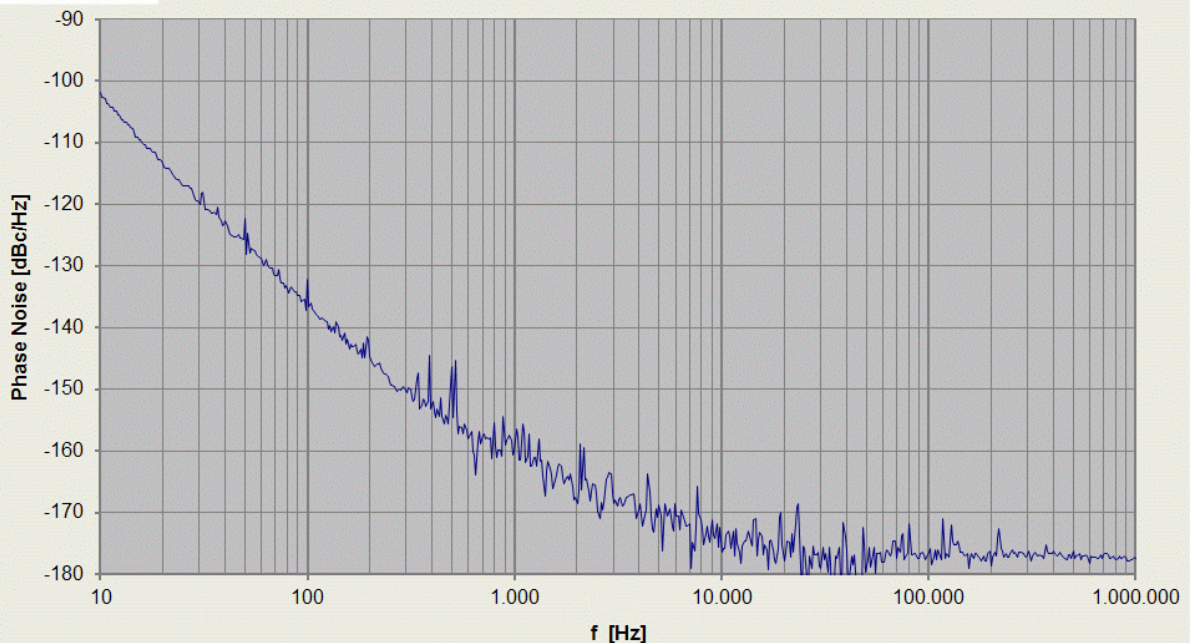
- **Low Phase Noise & Low G-Sensitivity**
- Small hermetically sealed package
- Tight Frequency Stability
- Low Power Consumption
- Fast Warm-up Time
- El. Frequency Tuning Input
- Reference Voltage Output
- RoHS-Compliant (lead-free)

APPLICATIONS:

- Instrument Reference
- Microwave Communication
- Clock Reference for Microwave Signal Source
- Test & Measurement
- Telecom Systems
- Radar Systems



Phase Noise O.60.802658AB-LF - 100.000 MHz; Power: +15 dBm; SSA Agilent 5052B, Corr. 100





1. Specification			
Test Conditions: T _A = +25 ±3 °C unless otherwise identified			
Nominal Frequency:	100.000 MHz		
Initial frequency tolerance: (V _C = +5 V; after power ON for 60 min.)	≤ ± 3.0 × 10 ⁻⁷		
Frequency stability in the temperature range:			
T-Option S: -20 °C to +70 °C:	≤ ± 5.0 × 10 ⁻⁸		
T-Option E: -40 °C to +85 °C:	≤ ± 1.0 × 10 ⁻⁷		
Frequency stability vs. supply voltage changes V _S ± 5% vs. load changes ± 10%	≤ ± 5.0 × 10 ⁻⁹ ≤ ± 5.0 × 10 ⁻⁹		
Aging (after 30 days of continuous operation):			
per day:	≤ ± 5.0 × 10 ⁻⁹		
1st year:	≤ ± 5.0 × 10 ⁻⁷		
for 15 years:	≤ ± 2.0 × 10 ⁻⁶		
Frequency control range:	≥ ± 3.0 ppm		
Control voltage range V _C :	0 V to +10.0 V		
Tuning Slope / Linearity:	Positive / ≤ 10%		
Reference Voltage V _{REF} :	+10.0 V ± 5%		
Supply Voltage V _S :	+12.0 V ± 5%		
Supply Current consumption:	T-Opt. S	T-Opt. E	
Steady state (+25 °C):	≤ 120 mA	≤ 160 mA	
During warm-up:	≤ 300 mA	≤ 380 mA	
Warm-up time: @ +25 °C within ± 5 × 10 ⁻⁸ of final frequency after 1 h:	≤ 5 min		
Allan Deviation for τ = 1 sec:	≤ ± 5 × 10 ⁻¹¹		
Phase Noise [dBc/Hz]:	Option A	Option B	Option C
10 Hz:	≤ -93	≤ -97	≤ -100
100 Hz:	≤ -125	≤ -130	≤ -135
1 kHz:	≤ -157	≤ -160	≤ -162
10 kHz:	≤ -173	≤ -173	≤ -170
100 kHz:	≤ -177	≤ -175	≤ -172
1 MHz:	≤ -180	≤ -178	≤ -175
Initial output level [dBm]:	≥ +13	≥ +13	≥ +10
Output voltage type: Output load impedance:	Sinewave 50 Ohm		
Harmonics: Spurious (100 Hz to 5 MHz from f _C):	≤ -30 dBc ≤ -100 dBc		

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2	Phase Noise; output level	09.03.2012	Rudolph
1		17.11.2011	Rudolph
ED	Description	Date	Name



RoHS compliant product

O.40.803188-LF



G-Sensitivity (all three axis):	$\leq 1 \times 10^{-9}/g$
Temperature ranges Operating Option S: Operating Option E: Storage:	-20 °C ... +70 °C -40 °C ... +85 °C -45 °C ... +90 °C

2. Environmental conditions

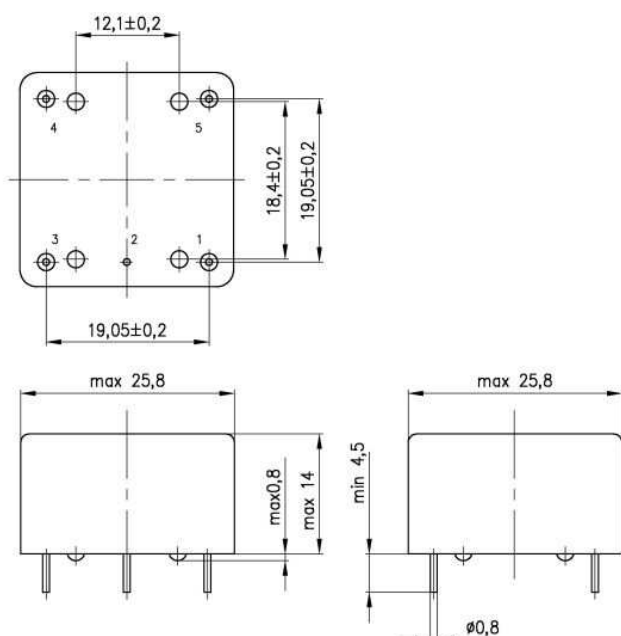
According to KVG Product Qualification Procedure AA-QM-202

3. Marking

Manufacturer's name, date code (week/year); Specification; Center frequency

4. Case

Case style: BF171-14



H = 14.8 mm max.

1. Pin configuration

1. RF output
2. Ground, case
3. Control voltage V_C
4. Reference voltage output V_{REF}
5. Supply voltage V_S

Moisture Sensitivity Level: 1

Solderability:

DIN IEC 68-2-20 (TA)

RoHS-6 compliant

Weight: < 20g

5. Ordering Information

Type Code	Package Code	Part Number	Temp. Range	Phase Noise Option	RoHS compl.	Nominal Frequency
OCXO	25.8 x 25.8		S or E	A, B or C		XXX.YYY MHz
O	40	803188	S	A	-LF	- 100.000 MHz

Example: O.40.803188-SA-LF-100.000 MHz

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2	Phase Noise; output level		09.03.2012	Rudolph
1			17.11.2011	Rudolph
ED	Description		Date	Name