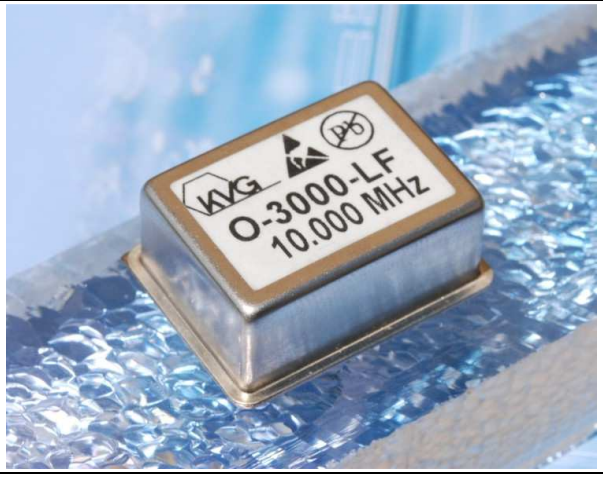
High Performance (VC)OCXO

DESCRIPTION:

O-30CXXXX-LPN-LGS-LF is a 10.000 MHz high performance 'Oven Controlled Crystal Oscillator' **(VC)OCXO** offering exceptional low phase noise **(LPN)**, low G-Sensitivity **(LGS)** and tight frequency stability.

The RoHS-compliant part **(LF)** comes in a small sized hermetically sealed metal can package what makes it suitable for humid climate environment.

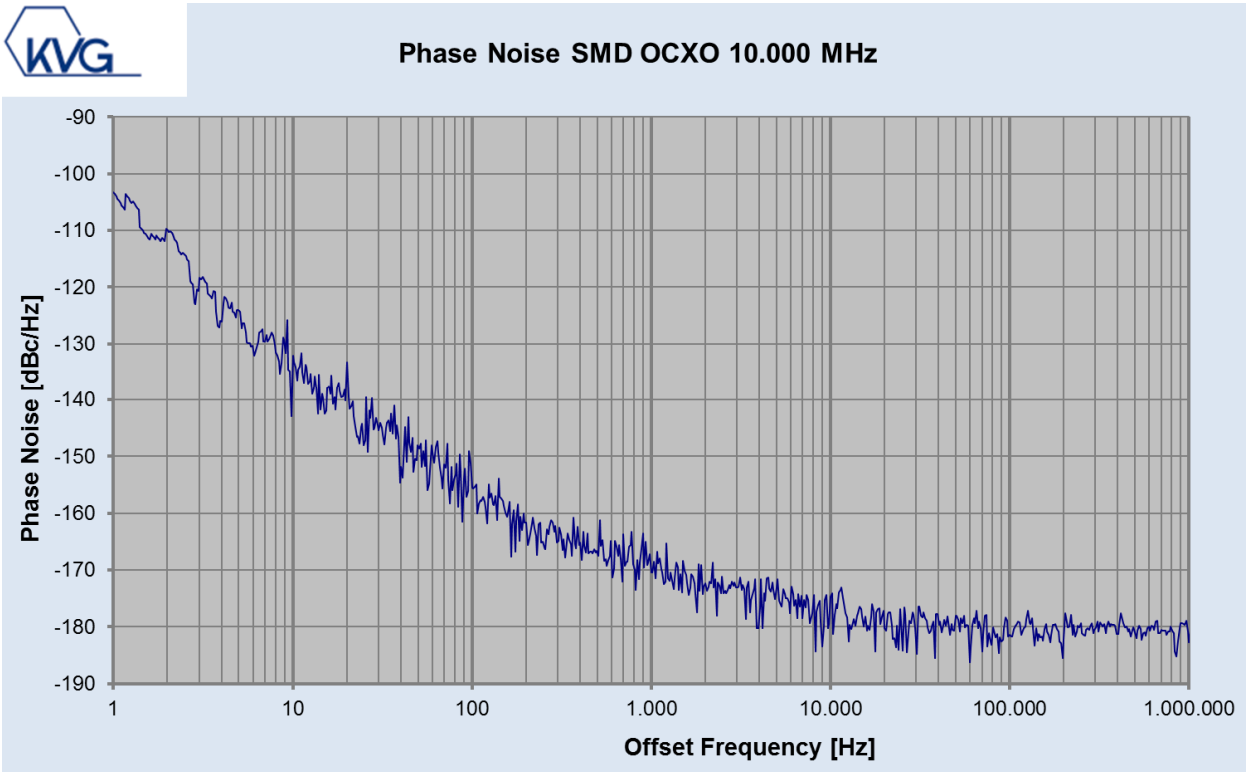


FEATURES:

- Fast Warm-up Time
- Low Power Consumption
- Tight Frequency Stability
- Excellent Long-Term Stability
- Low Phase Noise, Low G-Sensitivity
- Frequency Tuning Input
- Reference Voltage Output

APPLICATIONS:

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



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ROHS-Compliant Product

O-30CXXXX-LPN-LGS

1. Specification

Test conditions: V_S = +12 V, V_C = +5.0 V; T_A = +25 °C except when stated otherwise

Nominal Frequency F_N:	10.000 MHz		
Initial factory frequency adjustment tolerance: (after 30 min power ON)	≤ ± 0.1 ppm		
Frequency stability vs. temperature range -20 °C to +70 °C:	Class **G** ±50 ppb	Class **F** ±30 ppb	Class **E** ±20 ppb
Frequency stability vs. temperature range -40 °C to +85 °C:	Class **I** ±200 ppb	Class **H** ±100 ppb	Class **G** ±50 ppb
Frequency stability vs. supply voltage changes V_S ± 5 %: vs. load changes 50 Ohm ± 5%:	≤ ± 1.0 ppb ≤ ± 1.0 ppb		
Aging (after 30 days of continuous operation): per day: 1st year: 10 years:	Option **X** ≤ ± 0.5 ppb ≤ ± 50 ppb ≤ ± 0.3 ppm	Option **Y** ≤ ± 0.2 ppb ≤ ± 30 ppb ≤ ± 0.2 ppm	Option **Z** ≤ ± 0.1 ppb ≤ ± 20 ppb ≤ ± 0.1 ppm
Frequency control range (referred to F_N) :	≥ ± 0.4 ppm		
Frequency control voltage range V_C:	+0.5 V … +9.5 V		
Tuning slope dF/dV_C:	positive		
Tuning coverage :	≥ 15 years		
Reference Voltage Vref: Source resistance of Vref: Recommended load impedance:	+9.5 V ≤ 100 Ohm ≥ 10 kOhm		
Supply voltage V_S:	+12.0 V ± 5 %		
Supply current I_S: steady state @ T_A = +25 °C: during warm-up:	-20/+70 °C ≤ 150 mA ≤ 400 mA	-40/+85 °C ≤ 180 mA ≤ 500 mA	
Warm up time @ T_A = +25 °C to dF/F < ±5 x 10^{-8} referred to final frequency after 1 hour:	≤ 5 min		
Output voltage : level: load :	sine wave ≥ +8 dBm 50 Ohm		
Harmonics: Spurious (10 Hz to 1 MHz from carrier):	≤ -30 dBc ≤ -80 dBc		

ED	Description	Date	Name
4			
3			
2	Short Term Stability	18.11.2015	Schweickert
1		18.07.2014	Rudolph

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1. Specification (cont.)

Short term stability (Allan Variance) @ tau = 1 sec:			Typical 2 x 10^{-12}			
G-Sensitivity (each axis):			≤ 1 ppb/g			
Phase noise **max.** values **[dBc/Hz]** at offset frequency:	Option A	Option B	Option C	Option E	Option F	Option G
1 Hz:	-105	-110	-115	-95	-100	-105
10 Hz:	-135	-140	-142	-125	-130	-135
100 Hz:	-155	-155	-155	-153	-155	-155
1 kHz:	-165	-165	-165	-165	-165	-165
10 kHz:	-170	-170	-170	-175	-175	-175
100 kHz:	-170	-170	-170	-180	-178	-176
1 MHz:	-170	-170	-170	-180	-180	-176
Temperature ranges Operable: Storage:				-45 °C ... +90 °C -50 °C ... +95 °C		

2. Environmental conditions

According to KVG Product Qualification Procedure AA-QM-202

3. Marking

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

4. Ordering Information

Type Code	**Package Code**	**Supp. Volt.**	**Temp. Range**	**Freq. Stab. f(T)**	**AGING f(t)**	**Phase Noise Option**	**Low G-Sens. LGS**	**RoHS compl.**	**Nominal Frequency**
OCXO	36 x 27	12 V	LOW /HIGH	E to I	X, Y or Z	A to G	YES = 1		XXX.YYY MHz
O-	**30**	**C**	**4085**	**G**	**X**	**B**	**1**	**-LF**	**-10.000 MHz**

Example: O-30C4085GXB1-LF-10.000 MHz

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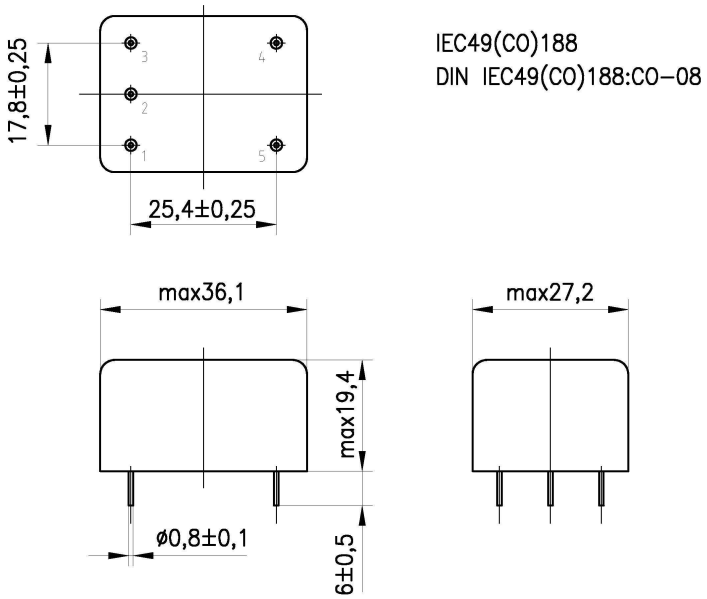
5. Case

Case style: BF9-19.4



max. height incl. stand-offs: 20.5 mm

Pin configuration

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

Moisture Sensitivity Level: 1

Termination finish:
Sn95.5 Ag3.8 Cu

Solderability:

DIN IEC 68-2-20 (TA)

RoHS-6 compliant