High Performance
Low Phase Noise SMD-(VC)OCXO
O-35CXXXXXX-LPN

DESCRIPTION:

O-35CXXXXXXXX-LPN-LF is a 10.000 MHz high performance SMD-'Oven Controlled Crystal Oscillator' **(VC)OCXO** offering exceptional low phase noise **(LPN)**, very tight frequency stability vs. temperature and low aging.

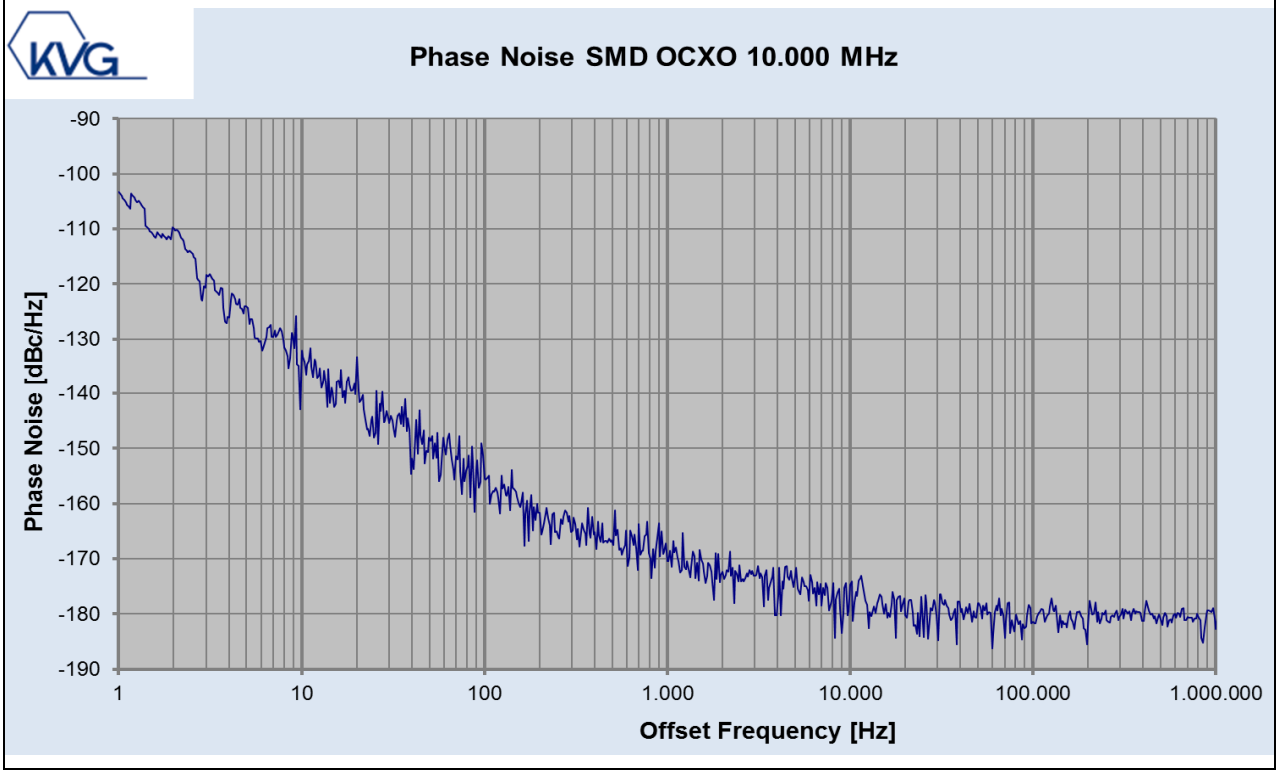
This RoHS-compliant part **(LF)** comes in a hermetically sealed SMD type metal can package what makes it suitable for humid climate environment.

FEATURES:

- Very Low Phase Noise
- Tight Frequency Stability
- Excellent Long-Term Stability
- SMD-Hermetically Sealed Package
- Low Power Consumption
- 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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1. Specification

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

Nominal Frequency:	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 **D** ±10 ppb	Class **C** ±5 ppb	Class **B** ±3 ppb
Frequency stability vs. temperature range -40 °C to +85 °C:	Class **G** ±50 ppb	Class **E** ±20 ppb	Class **D** ±10 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	
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		
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 to +70 °C ≤ 120 mA ≤ 300 mA	-40 to +85 °C ≤ 150 mA ≤ 400 mA	
Warm up time @ T_A = +25 °C to dF/F ≤ ± 50 ppb referred to final frequency after 1 hr:	≤ 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		

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1. Specification (cont.)

Short term stability (Allan Variance) @ tau = 1 sec:			Typical 2 x 10^{-12}			
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

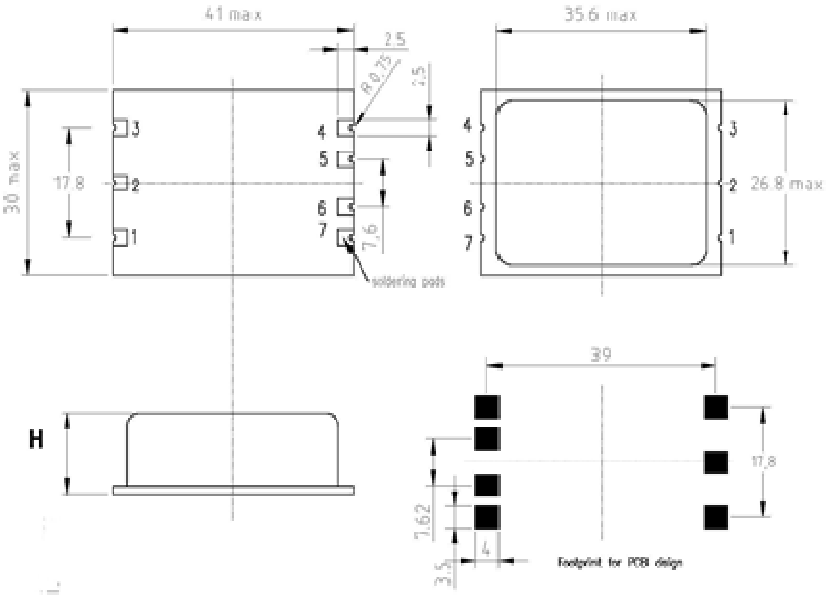
4. Ordering Information

Type Code	Package Code	Supp. Volt.	Temp. Range	Freq. Stab. f(T)	Aging f(t)	Phase Noise Option	Low G-Sens.	RoHS compl.	Nominal Frequency
OCXO	36 x 27 SMD	12 V	LOW /HIGH	A to F	X or Y	A to G	NO = 0		XXX.YYY MHz
O-	**35**	**C**	**4085**	**D**	**X**	**B**	**0**	**-LF**	**-10.000 MHz**

Example: O-35C4085DXB0-LF-10.000 MHz

5. Case

Case style: BF9-18-SMD



Height: H = 18.0 mm max

Pin configuration

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

Moisture Sensitivity Level: 1

RoHS-6 compliant