



High Performance LPN LGS SMD-(VC)OCXO O-35CXXXXX1-LPN-LGS

DESCRIPTION:

O-35CXXXX-LPN-LGS-LF is a 10.000 MHz high performance SMD-'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 hermetically sealed metal can SMD package what makes it suitable for humid climate environment.



FEATURES:

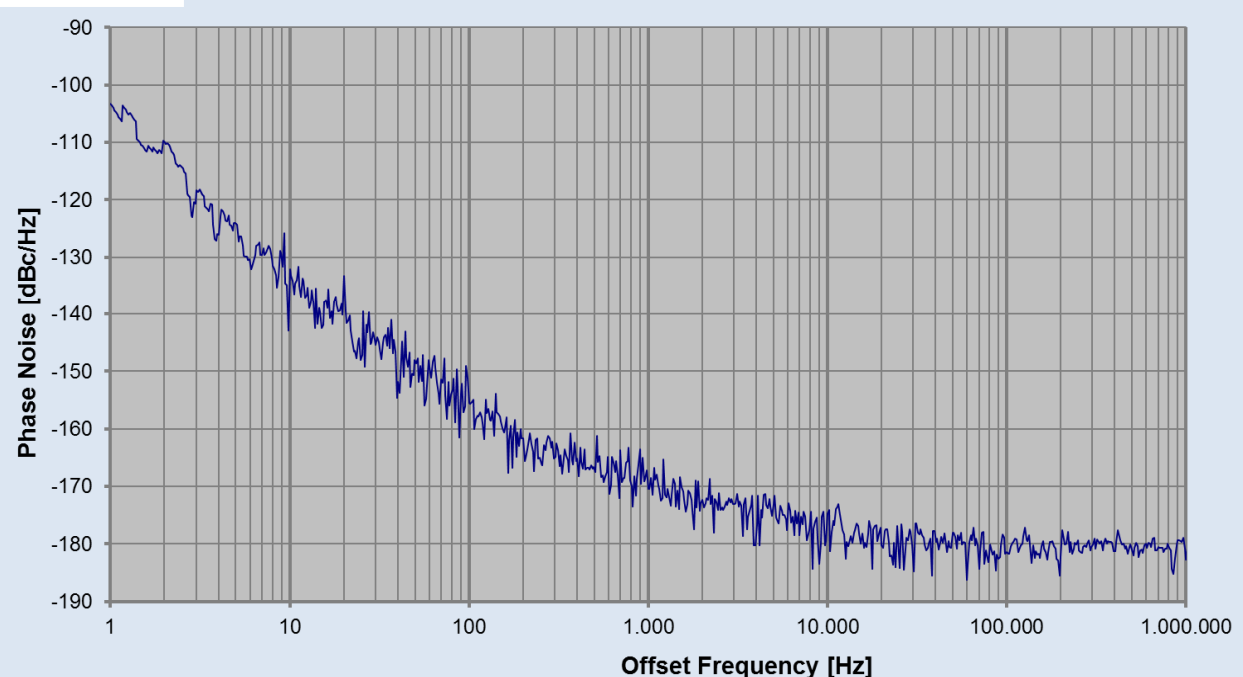
- Very Low Phase Noise
- Low G-Sensitivity
- Tight Frequency Stability
- Excellent Long-Term Stability
- SMD-Hermetically Sealed Package
- Frequency Tuning Input
- Reference Voltage Output

APPLICATIONS:

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



Phase Noise SMD OCXO 10.000 MHz



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O-35CXXXXXX-LPN-LGS



1. Specification			
Test conditions: $V_S = +12\text{ V}$, $V_C = +5.0\text{ V}$; $T_A = +25\text{ °C}$ unless otherwise stated			
Nominal Frequency:	10.000 MHz		
Initial factory frequency adjustment tolerance: (after 30 min power ON)	$\leq \pm 0.1\text{ ppm}$		
Frequency stability vs. temperature range -20 °C to +70 °C:	<u>Class G</u> $\pm 50\text{ ppb}$	<u>Class F</u> $\pm 30\text{ ppb}$	<u>Class E</u> $\pm 20\text{ ppb}$
Frequency stability vs. temperature range -40 °C to +85 °C:	<u>Class I</u> $\pm 200\text{ ppb}$	<u>Class H</u> $\pm 100\text{ ppb}$	<u>Class G</u> $\pm 50\text{ ppb}$
Frequency stability vs. supply voltage changes $V_S \pm 5\%$: vs. load changes 50 Ohm $\pm 5\%$:	$\leq \pm 1.0\text{ ppb}$ $\leq \pm 1.0\text{ ppb}$		
Aging (after 30 days of continuous operation): per day: 1st year: 10 years:	<u>Option X</u> $\leq \pm 0.5\text{ ppb}$ $\leq \pm 50\text{ ppb}$ $\leq \pm 0.3\text{ ppm}$	<u>Option Y</u> $\leq \pm 0.2\text{ ppb}$ $\leq \pm 30\text{ ppb}$ $\leq \pm 0.2\text{ ppm}$	<u>Option Z</u> $\leq \pm 0.1\text{ ppb}$ $\leq \pm 20\text{ ppb}$ $\leq \pm 0.1\text{ ppm}$
Frequency control range (referred to F_N) :	$\geq \pm 0.4\text{ ppm}$		
Frequency control voltage range V_C :	+0.5 V ... +9.5 V		
Tuning slope dF/dV_C :	positive		
Tuning coverage :	$\geq 15\text{ years}$		
Reference Voltage V_{ref} : Source resistance of V_{ref} : Recommended load impedance:	+9.5 V $\leq 100\text{ Ohm}$ $\geq 10\text{ kOhm}$		
Supply voltage V_S :	$+12.0\text{ V} \pm 5\%$		
Supply current I_S : steady state @ $T_A = +25\text{ °C}$: during warm-up:	<u>-20 to +70 °C</u> $\leq 150\text{ mA}$ $\leq 400\text{ mA}$	<u>-40 to +85 °C</u> $\leq 180\text{ mA}$ $\leq 500\text{ mA}$	
Warm up time @ $T_A = +25\text{ °C}$ to $dF/F \leq \pm 50\text{ ppb}$ referred to final frequency after 1 hr:	$\leq 5\text{ min}$		
Output voltage : level: load :	Sine wave $\geq +8\text{ dBm}$ 50 Ohm		
Harmonics: Spurious (10 Hz to 1 MHz from carrier):	$\leq -30\text{ dBc}$ $\leq -80\text{ dBc}$		

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2	Short Term Stability	18.11.2015	Schweickert	
1		13.05.2015	Schweickert	
ED	Description	Date	Name	



ROHS-Compliant Product

O-35CXXXXXX-LPN-LGS

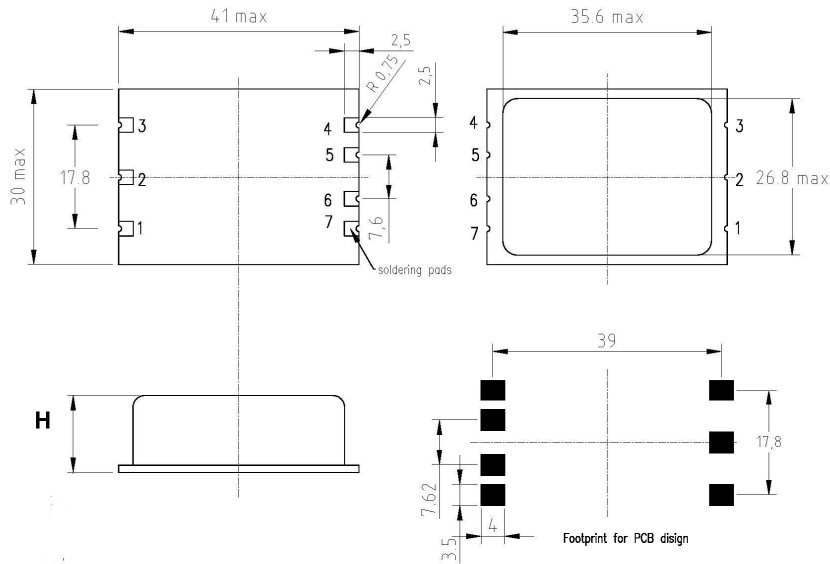


1. Specification (cont.)									
Short term stability (Allan Variance) @ tau = 1 sec:						Typical 2×10^{-12}			
G-Sensitivity (each axis):						≤ 1 ppb/g			
Phase Noise max. values [dBc/Hz] at offset frequency:		Option A	Option B	Option C	Option E	Option F	Option G		
1 Hz:		-105	-110	-115	-95	-100	-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:						-45 °C ... +90 °C			
Storage:						-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
O	36 x 27 SMD	12 V	LOW /HIGH	E to I	X, Y or Z	A to G	YES = 1		XXX.YYY MHz
O	-35	C	4085	G	X	B	1	-LF	-10.000 MHz
Example: O-35C4085GXB1-LF-10.000 MHz									

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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

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