500.000 MHz
LPN/LGS RF OCXO

DESCRIPTION:

KVG's new **OCXO-S500-LF** is an exceptional 500.000 MHz high performance 'Oven Controlled Crystal Oscillator' (OCXO) offering **Low Phase Noise (LPN)** and **Low G-Sensitivity (LGS)** by usage of special packaged 5th overtone SC-cut crystal.
The part comes with a rugged metal can package with SMA connector and feedthrus for supply voltage, tuning voltage input and reference voltage output. The low G-Sensitivity makes it a preferred part for any vehicle mounted applications.

FEATURES:

- Low Phase Noise
- Low G-Sensitivity
- Low Power Consumption
- Tight Frequency Stability
- Excellent Long Term Stability
- Rugged package with SMA connector
- Fast Warm-up Time
- El. Frequency Tuning Input
- Reference Voltage Output
- RoHS-Compliant (lead-free)

APPLICATIONS:

- Instrument References
- Microwave Communication Systems
- Clock Reference for Microwave Signal Sources
- Test & Measurement Systems
- Radar Systems

ROHS-Compliant Product

OCXO-S500-LF

1. Specification (preliminary)

Nominal Frequency F_N:	500.000 MHz	
Initial frequency tolerance: (T_A = +25 ℃, V_C = +5 V after power on for 30 min):	$\leq \pm 3 \times 10^{-7}$	
Frequency stability in the temperature range -20 ℃ to +70 ℃: vs. supply voltage changes $V_S \pm 5\%$: vs. load changes 50 Ohm ± 10%:	 $\leq \pm 5 \times 10^{-8}$ $\leq \pm 5 \times 10^{-9}$ $\leq \pm 5 \times 10^{-9}$	
Aging (after 30 days of continuous operation): per day: per year: 15 years:	 $\leq \pm 5 \times 10^{-9}$ $\leq \pm 5 \times 10^{-7}$ $\leq \pm$ 2.5 ppm	
Frequency tuning range:	$\geq \pm$ 3.0 ppm	
Frequency control voltage range:	0 V to +10 V	
Reference voltage output:	+10 V ± 5%	
Supply voltage V_S:	+12.0 V ± 5 %	
Supply current I_S steady state @ +25 ℃: during warm-up:	 ≤ 200 mA ≤ 400 mA	
Warm up time: (to $dF/F_0 < \pm 5 \times 10^{-8}$ referred to F_0 after 1 hour)	≤ 5 min	
Output signal type: Initial output level: Output load impedance:	Sine wave +12 dBm ± 2 dBm 50 Ohm ± 10%	
Output level stability vs. load (50 Ohm ±10%):	≤ ± 1 dBm	
Harmonics: Subharmonics: Spurious (100 Hz to 5 MHz):	≤ -30 dBc ≤ -40 dBc ≤ -100 dBc	
Phase noise:	typ	max
100 Hz:	≤ -120 dBc / Hz	≤ -117 dBc / Hz
1 kHz:	≤ -145 dBc / Hz	≤ -142 dBc / Hz
10 kHz:	≤ -155 dBc / Hz	≤ -152 dBc / Hz
100 kHz:	≤ -160 dBc / Hz	≤ -157 dBc / Hz
G-Sensitivity (20 Hz – 2 kHz, all three axis)	$\leq 1 \times 10^{-9}$/g	
Temperature ranges Operating: Storage:	 -20 ℃ ... +70 ℃ -40 ℃ ... +85 ℃	

ED	Description	Date	Name
4			
3			
2	Phase noise	14.03.2011	Rudolph
1		24.01.2011	Rudolph

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Subject to technical modification

ROHS-Compliant Product

OCXO-S500-LF

2. Environmental conditions

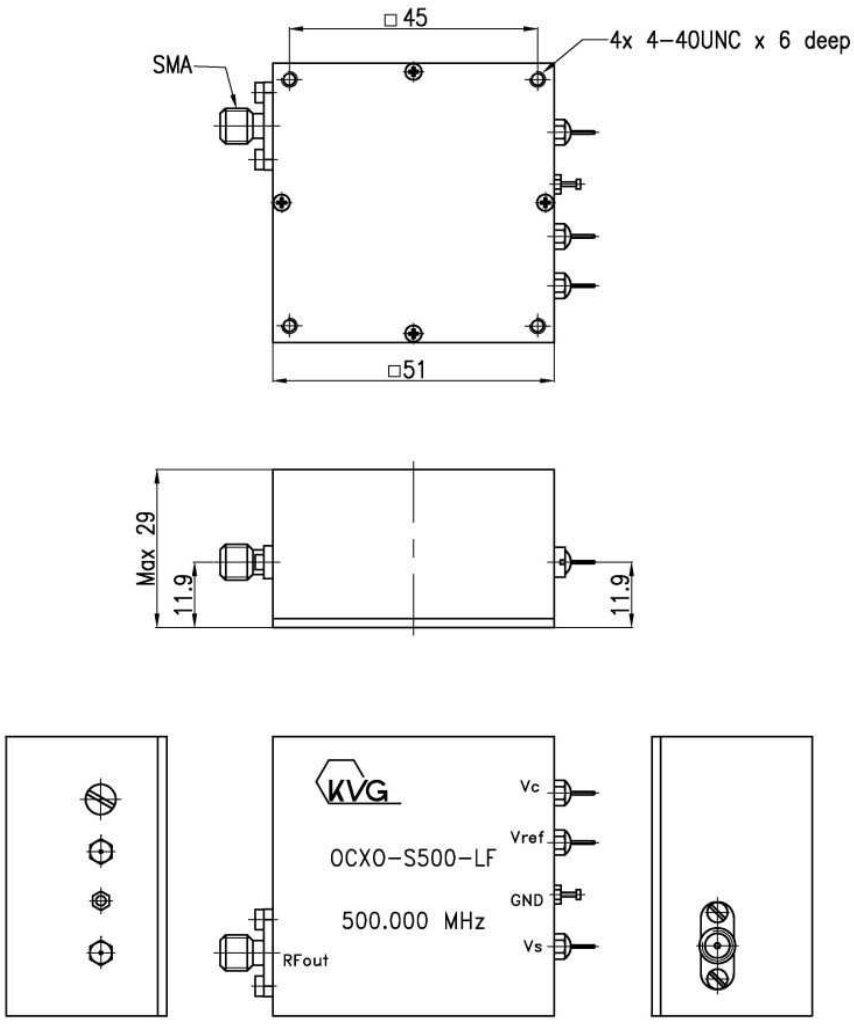
According to KVG Product Qualification Procedure AA-QM-202

3. Marking

Manufacturer's name, date code (week/year)	RF OUT	V_C IN
Specification	GND	V_{Ref} OUT
Nominal frequency	Vs	GND
	FREQ TUNING	

4. Case

Case style: BF205-29.0



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