V-91000-LF 5 V Sine LP

Low Phase Noise SMD RF VCXO

DESCRIPTION:

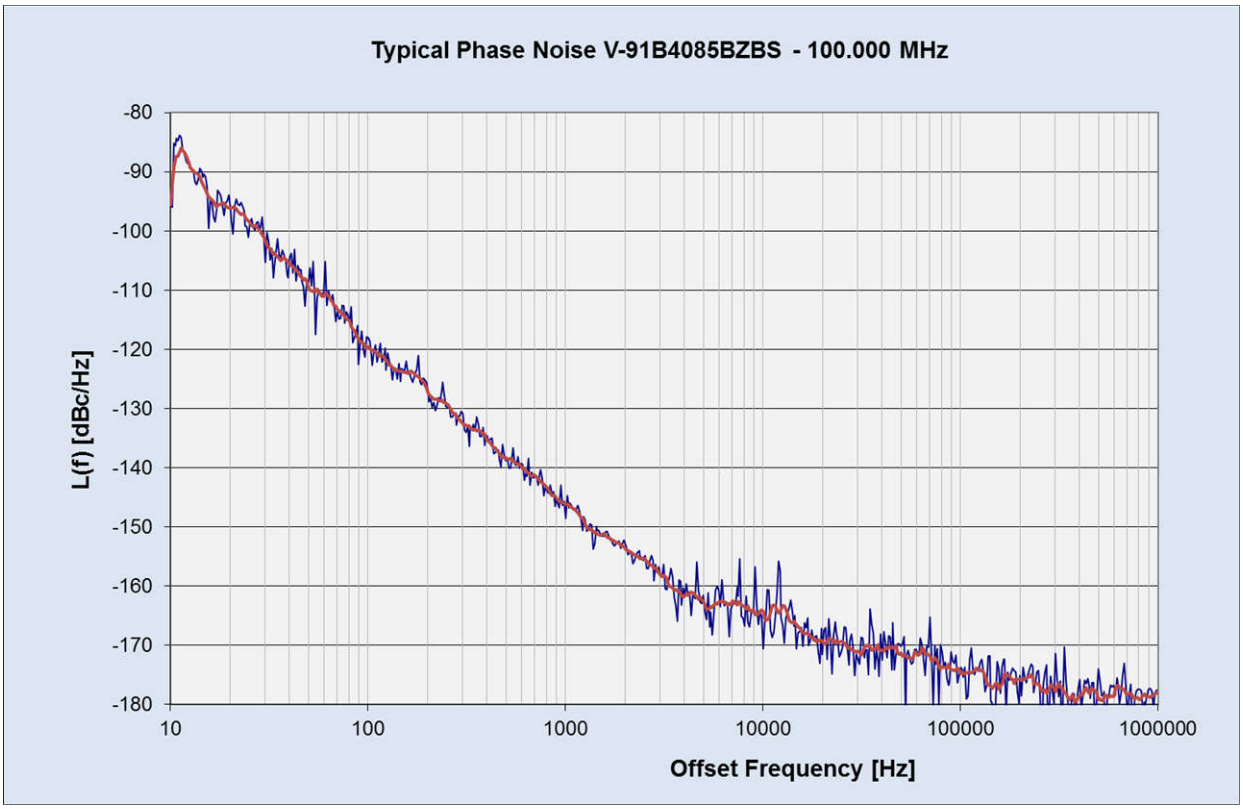
The new V-91000-LF RF VCXO series comes with a small low profile 14 x 9 x 3.5 mm SMD package offering true sine output and low close-in phase noise as well as exceptional low noise floor far-off the carrier.

FEATURES:

- 50 … 125 MHz output frequency
- True sine output signal
- -118 dBc/Hz typical phase noise @ 100 Hz carrier offset
- -174 dBc/Hz typical „Noise Floor“ @ 100 kHz carrier offset.
- Low G Sensitivity

APPLICATIONS:

- Test & Measurement Equipment
- Radar Systems
- Telecom Systems
- Network and Synchronisation Units



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ROHS-Compliant Product

V-91000

1. Specification

Test conditions: T_A = +25 °C; Vs = +5 V; Vc = 2.5 V unless otherwise identified

Frequency range: Standard Frequencies:	50.00 …. 125.000 MHz 50 MHz, 100 MHz, 122.88 MHz, 125 MHz	
Supply voltage V_S:	5.0 V ± 5 %	
Current consumption	≤ 30 mA	
Operating temperature range options:	**2070** -20 °C to +70 °C	**4085** -40 °C to +85 °C
Frequency stability overall including: - initial frequency tolerance after reflow - vs. temperature range - vs. supply voltage changes V_S ± 5 % - vs. load changes ± 10 % - aging for 10 years (T_A = +40 °C)	≤ ±25 ppm **(B)**	
Control voltage range V_C:	0.0 V to +5.0 V	
Frequency Tuning Range:	≥ ±30 ppm **(Z)**	
Modulation bandwidth (-3 dB cut-off freq.):	≥ 10 kHz	
Control voltage input impedance:	≥ 1 MOhm	
Transfer function / linearity:	Positive / 10 %	
Output voltage: level: load:	**S**ine wave **(S)** ≥ +10 dBm 50 Ohm	
Harmonics:	≤ -30 dBc	
Sub-harmonics:	None	
Phase noise @ 50 MHz to 100 MHz Offset frequency:	Typ.	Max.
10 Hz:	-87 dBc/Hz	≤ -84 dBc/Hz
100 Hz:	-118 dBc/Hz	≤ -115 dBc/Hz
1 kHz:	-146 dBc/Hz	≤ -144 dBc/Hz
10 kHz:	-166 dBc/Hz	≤ -164 dBc/Hz
100 kHz:	-174 dBc/Hz	≤ -172 dBc/Hz
1 MHz:	-177 dBc/Hz	≤ -175 dBc/Hz

ED	Description	Date	Name
4			
3			
2			
1		01.08.2017	Rudolph

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V-91000

1. Specification continued

	Typ.	Max.
Phase noise @ 120 MHz to 125 MHz Offset frequency:		
10 Hz:	-83 dBc/Hz	≤ -80 dBc/Hz
100 Hz:	-115 dBc/Hz	≤ -112 dBc/Hz
1 kHz:	-144 dBc/Hz	≤ -142 dBc/Hz
10 kHz:	-165 dBc/Hz	≤ -163 dBc/Hz
100 kHz:	-174 dBc/Hz	≤ -172 dBc/Hz
1 MHz:	-177 dBc/Hz	≤ -175 dBc/Hz
Storage temperature range:	-45 °C ... +90 °C	

2. Environmental conditions

According to KVG Product Qualification Procedure AA-QM-200

3. Marking

Manufacturer's name,
V-91000
Center frequency

4. Ordering Information

Type & Package code	Supply voltage	Temperature range LOW/HIGH	Freq. stability	Tuning Range	Phase Noise Option	Output signal	RoHS compl	Nominal frequency
V-91: BF157-3.6E	**B:** 5 V	**2070 4085**	**B**	**Z**	**B**	**S:** Sine	**-LF**	– XX.YYY MHz

Example: V-91B4085BZBS-LF-100.000 MHz

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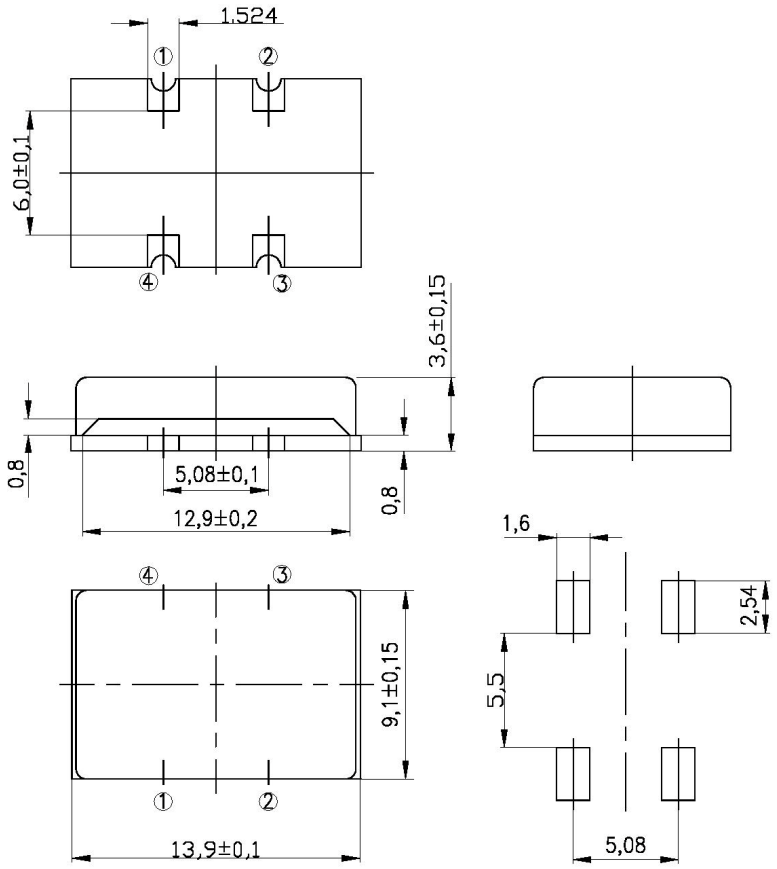
5. Case

Case style: BF157-3.6E



Pin configuration

1. Control voltage V_C
3. Ground, Case
4. RF output
6. Supply voltage V_S

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6. Reflow soldering profile