

# High Frequency, Very Low Noise and Low g-Sensitivity VCXO VLEU-Type series

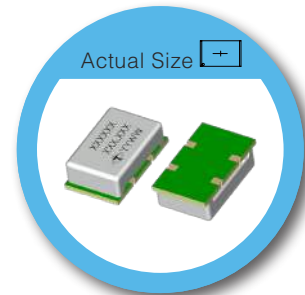
## 14 x 9mm SMD package

### FEATURE

- VLEU-Type series is a high frequency high performance VCXO offering high frequency and very low phase noise/Low g-Sensitivity. The part comes in a small SMD package which makes it suitable for reflow soldering during pick and place assembly.
- Low Phase Noise
- Low g-Sensitivity
- Small SMD Package
- Low Power Consumption

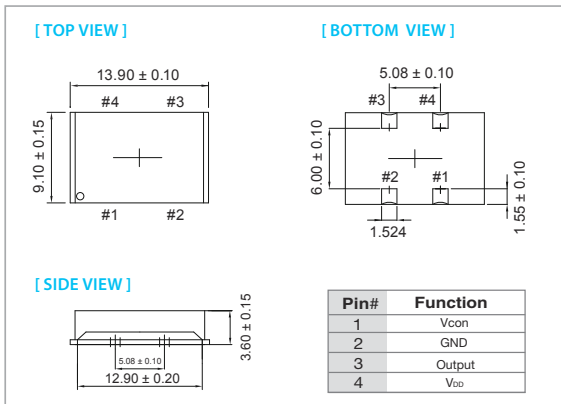
### TYPICAL APPLICATION

- Instrument
- Microwave Communication
- Test & Measurement
- Telecom Systems
- Satellite Communication

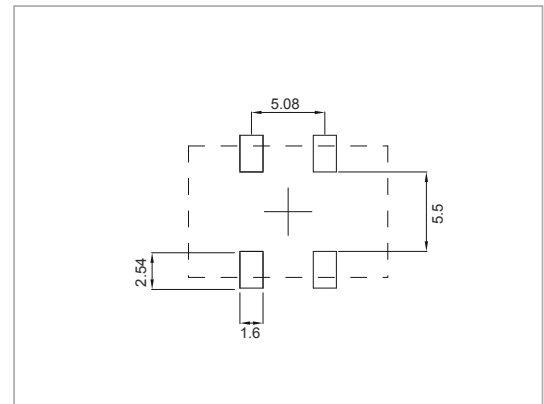


**RoHS Compliant**

### DIMENSION (mm)



### SOLDER PAD LAYOUT (mm)



### ELECTRICAL SPECIFICATION OUTPUT (PIN = "R.F. OUTPUT")

| Parameter                     |     | Min.                           | Typ. | Max. | Unit   | Test Condition                                                                                                                                         |
|-------------------------------|-----|--------------------------------|------|------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Frequency (Fo)                |     | 50                             |      | 125  | MHz    | Standard Frequency:100MHz, 122.88MHz, 125MHz                                                                                                           |
| Frequency Stability (Overall) |     | -25                            |      | +25  | ppm    | Frequency stability includes frequency tolerance@25°C and frequency stability vs. operating temperature range and voltage variance and 10 years aging. |
| Operating Temperature Range   |     | -20°C ~ +70°C<br>-40°C ~ +85°C |      |      | °C     |                                                                                                                                                        |
| Storage Temperature Range     |     | -45°C ~ +90°C                  |      |      | °C     |                                                                                                                                                        |
| Waveform                      |     | CMOS                           |      |      |        |                                                                                                                                                        |
| Duty Cycle                    |     | 45                             |      | 55   | %      |                                                                                                                                                        |
| Rise / Fall Time              |     |                                |      | 3    | nSec   | (20%VDD ~ 80%VDD)                                                                                                                                      |
| Level                         | VOL |                                |      | 0.5  | V      |                                                                                                                                                        |
|                               | VOH | 4.5                            |      |      | V      |                                                                                                                                                        |
| Load                          |     |                                | 15   |      | pF     |                                                                                                                                                        |
| g-Sensitivity                 |     |                                | 1.5  |      | ppb/g  |                                                                                                                                                        |
| Phase Noise (100MHz) (Max.)   |     |                                |      | -80  | dBc/Hz | @ 10Hz                                                                                                                                                 |
|                               |     |                                |      | -115 | dBc/Hz | @ 100Hz                                                                                                                                                |
|                               |     |                                |      | -140 | dBc/Hz | @ 1KHz                                                                                                                                                 |
|                               |     |                                |      | -160 | dBc/Hz | @ 10KHz                                                                                                                                                |
|                               |     |                                |      | -168 | dBc/Hz | @ 100KHz                                                                                                                                               |
|                               |     |                                |      | -170 | dBc/Hz | @ 1MHz                                                                                                                                                 |

**Note: not all combination of options are available. Other specifications may be available upon request.**

Specifications subject to change without notice.

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### ELECTRICAL FREQUENCY ADJUSTMENT (PIN = “VCO INPUT”)

| Parameter            | Min.     | Typ.  | Max. | Unit | Test Condition |
|----------------------|----------|-------|------|------|----------------|
| Pulling Range        | ±25      |       |      | ppm  |                |
| Control Voltage      | 0        |       | +3.3 | V    |                |
| Slope                | Positive |       |      |      |                |
| Center Voltage       |          | +1.65 |      | V    |                |
| Linearity            | -10      |       | +10  | %    |                |
| Modulation Bandwidth | 1        |       |      | KHz  |                |
| VC Input Impedance   | 100      |       |      | Mohm |                |

### INPUT POWER (PIN = “+VDC”)

| Parameter | Min.   | Typ. | Max.   | Unit | Test Condition            |
|-----------|--------|------|--------|------|---------------------------|
| Voltage   | +3.135 | +3.3 | +3.465 | V    |                           |
| Current   |        |      | 30     | mA   | At maximum supply voltage |

### ENVIRONMENTAL

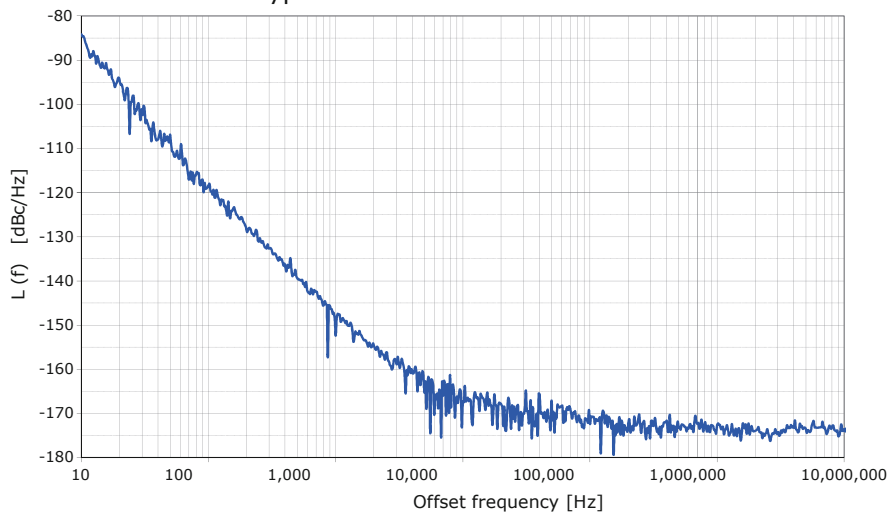
| Parameter        | Reference Std.    | Test Condition                                                                 |
|------------------|-------------------|--------------------------------------------------------------------------------|
| Vibration Test   | DIN EN 60068-2-6  | 10~55Hz, 0.75mm Peak; 55~2000Hz, 10g Peak. 10 Cycles; 3 axis; 1Oct./min.       |
| Thermal Shock    | DIN EN 60068-2-14 | 30 min. @each temperature 10 cycles, Transfer<1min.; -40°C +/-3°C; 85°C +/-3°C |
| Mechanical Shock | DIN EN 60068-2-27 | 6 shocks per axis, 100g; 6ms both directions                                   |

### ORDERING INFORMATION

|               |                      |
|---------------|----------------------|
| -20°C ~ +70°C | VLEUWCJTNF-Frequency |
| -40°C ~ +85°C | VLEUWLJTNF-Frequency |

### PHASE NOISE TEST DATA

VLEU-Type 100MHz CMOS VCXO Phase Noise



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