北京瑞安嘉业科技发展有限公司

**BEIJING REALGIANT TECHNOLOGY CO., LTD**

# VCXO 1409

## Features:

- Broad Voltage Control Range
- LVPECL、CMOS、HCMOS
- Mass production with well uniformity
- Custom build capability
- ISO9001:2008 & ISO 14001:2004 certificated
- ROHS compliant


## Specification:

| Parameter | | Min | Typ. | Max | Unit | Condition | Note |
|---|---|---|---|---|---|---|---|
| **Frequency Stability** | | | | | | | |
| Frequency | | 2.048 | | 122.88 | MHz | | CMOS/HCMOS |
| | | 61.44 | | 700.0 | MHz | | LVPECL |
| Initial Frequency Accuracy | | -10 | | +10 | ppm | Vc=Vcc/2@25℃, | |
| | | -15 | | +15 | | | |
| Supply Variation | | -3 | | +3 | ppm | Vcc±5%， @25℃ | |
| Load Variation | | -2 | | +2 | ppm | RL±10%，@25℃ | |
| Aging | First year | -3 | | +3 | ppm | | |
| Temperature Stability | | -25 | | +25 | ppm | -40℃～+85@25℃ | |
| Start up time | | | | 20 | ms | | |
| **Supply Voltage/Current** | | | | | | | |
| Voltage Supply | | 3.135 | 3.3 | 3.465 | V | | CMOS/HCMOS |
| | | 4.75 | 5 | 5.25 | V | | HCMOS |
| Operating Current | | | | 80 | mA | Max | LVPECL |
| | | | | 40 | mA | | CMOS/HCMOS |
| | | | | 50 | mA | Standard | LVPECL |
| | | | | 20 | mA | | CMOS/HCMOS |
| **Output Characteristics** | | | | | | | |
| LVPECL | Load | | 50 | | Ω | | LVPECL |
| | | | 15 | | pF | | CMOS/HCMOS |
| | Output Level(VOL) | | | 1.65 | V | | LVPECL |
| | | | | Vcc*10% | | | CMOS/HCMOS |
| | Output Level(VOH) | 2.2 | | | V | | LVPECL |
| | | Vcc*90% | | | | | CMOS/HCMOS |
| | Duty Cycle | 45 | | 55 | % | | |
| | Rise Time/ Fall Timel | | | 3 | ns | | Output Freq＜50MHz |
| | | | | 1 | ns | | 50MHz≤Output≤320MHz |
| | | | | 0.5 | ns | | Output Freq＞320MHz |

* Above specification subject to change without prior notice, please consult our sales @ www.crystal-bj.com

| Phase Noise | | | | | | |
|---|---|---|---|---|---|---|
| Phase Noise | | | -64 | dBc/ Hz | @10Hz | For 100.00MHz operational frequency |
| | | | -95 | | @100Hz | |
| | | | -123 | | @1Hz | |
| | | | -140 | | @10Hz | |
| | | | -146 | | @100Hz | |
| | | | -146 | | @1MHz | |
| **Voltage Control Characteristics** | | | | | | |
| Control Voltage Range | 0 | Vcc/2 | Vcc | V | | |
| Frequency tuning range | | | -90 | ppm | Vc=0V | For 100.00MHz operational frequency |
| | -10 | | +10 | ppm | Vc=Vcc/2 | |
| | +60 | | +150 | ppm | Vc= Vcc | |
| Slope | Positive | | | | | |
| Linearity | -10 | | +10 | % | | |
| Input Impedance | 100 | | | MΩ | | |
| Modulation bandwith | 15 | | | KHz | | |

| Environmental, Mechanical Conditions | |
|---|---|
| Operating temperature range | -40℃~+85℃ |
| Storage temperature range | -55℃~+125℃ |
| Drop Test | The test shall be carried out as the provisions of the IEC60028-2-32 test Ed. |
| Bumping Test | Device are bumped to three mutually perpendicular axes at peak acceleration of 400m/s², each 4000±10 times , 6ms pulse duration time. |
| Vibration test | The test shall be carried out as the provisions of the IEC60028-2-6 test Ec. Frequency Range:10Hz～55Hz,Peak value:0.75mm, Device are bumped to three mutually perpendicular axes for 30 min each. |
| Mechanical Shock | The test shall be carried out as the provisions of the IEC60028-2-27 test Ea. Peak Acceleration 1000m/s² ,6mS duration, 1/2 sine wave, 3 shocks each direction along 3 mutually perpendicular planes. |
| Thermal shock | 0.5h@-40℃，0.5h@+85℃，Note: the changing time < 30 seconds, cycling for 6times |
| Solderability | 260℃ for 5s |
| Solder Resistance | Test temperature 260℃,>10s,4cycles. |
| Pull | 10N |
| Push | 2N |

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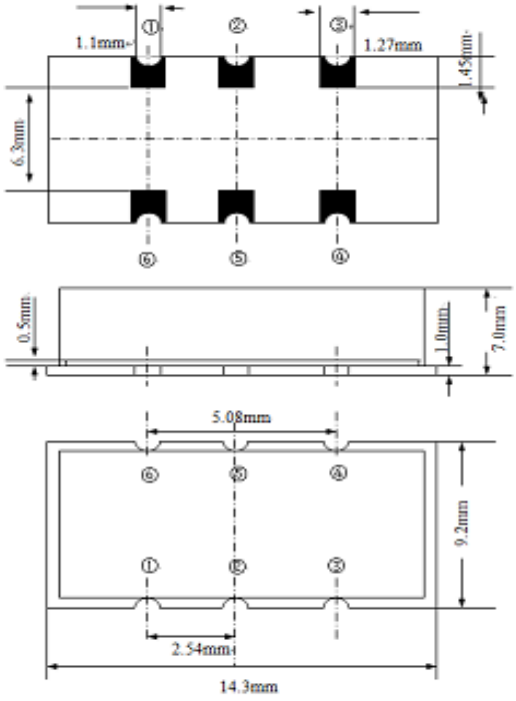
## Dimensions:




## Pin Function:

| Pin No. | Pin Function |
|---|---|
| 1 | Vc |
| 2 | OE/NC |
| 3 | GND |
| 4 | OUTPUT |
| 5 | COUTPUT/NC |
| 6 | Vcc |

Note: the length, width, height are all maximum.

## How to Order

V9 Output Supply Voltage Temperature Range OE Voltage Control Range Frequency

| Code | Size(mm) |
|---|---|
| V9 | SMD9X14 |

| Code | Specification |
|---|---|
| 3 | 3.3V±5% |
| 5 | 5V±5% |

| Code | Specification |
|---|---|
| P | LVPECL |
| H | HCMOS |
| L | LVCMOS |

| Code | Specification |
|---|---|
| A | 0℃to+70℃ |
| B | -20℃to+70℃ |
| C | -40℃to+85℃ |

| Code | Specification |
|---|---|
| H | Logic"1" |
| L | Logic"0" |
| N | NC |

| Code | Specification |
|---|---|
| 100 | ⩾100ppm |
| 120 | ⩾120ppm |

Eg:100.000MHz