

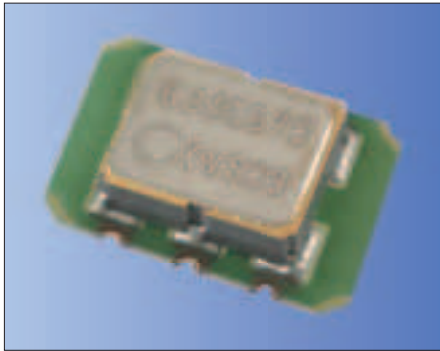


# Voltage Controlled Crystal Oscillators (VCXO)

## Surface Mount Type KV5032L Series



LV-PECL/ 3.3V/ 5.0×3.2mm



RoHS Compliant

### Features

- High frequency to 170MHz
- LV-PECL output
- Miniature ceramic package
- Low Phase Noise

Table 1

| Freq. Code | Tol. × 10 <sup>-6</sup> | Operating Temperature Range (°C) | Note   |
|------------|-------------------------|----------------------------------|--|
| O          | ±50                     | -10 to +70                       | Standard specifications                      |
| S          | ±30                     | -10 to +70                       | Please contact us for available frequencies. |
| G          | ±50                     | -40 to +85                       |  |

### How to Order

**KV5032L** **100.000** **P** **3** **□** **J** **00**  
 ① ② ③ ④ ⑤ ⑥ ⑦

- ① Series
- ② Output Frequency
- ③ Output Type (LV-PECL)
- ④ Supply Voltage (3.3V)
- ⑤ Frequency Tolerance (See Table 1)
- ⑥ Symmetry/ INH Function/ APR (45/ 55%, Disable/ APR50) J : Low Phase Noise
- ⑦ Individual Specification (STD Specification is "00")

Packaging (Tape & Reel 1000 pcs./ reel)

### Specifications

| Item                                       | Symbol             | Conditions  | Min.                                  | Max.                   | Units             |                   |
|--|--------------------|---|---------------------------------------|------------------------|-------------------|-------------------|
| Output Frequency Range <sup>Note1</sup>    | f <sub>o</sub>     |   | 100                                   | 170                    | MHz               |                   |
| Frequency Tolerance                        | f <sub>tol</sub>   | Initial tolerance, Operating temperature range, Rated power supply voltage change, Load change, Aging (1 year @25°C), Shock and vibration | Op. Temp.: -10 to +70°C/ -40 to +85°C | -50                    | +50               | ×10 <sup>-6</sup> |
|  |                    |   | Op. Temp.: -10 to +70°C               | -30                    | +30               |                   |
| Absolute Pull Range                        | APR                | Standard Specifications   | ±50                                   | —                      | ×10 <sup>-6</sup> |                   |
|  |                    | Extend (Option)   | ±100                                  | —                      |                   |                   |
| Frequency Aging                            | f <sub>age</sub>   | Per 20years @25°C   | -20                                   | +20                    | ×10 <sup>-6</sup> |                   |
| Control Voltage                            | V <sub>C</sub>     |   | 0                                     | +3.3                   | V                 |                   |
| Storage Temperature Range                  | T <sub>stg</sub>   |   | -55                                   | +125                   | °C                |                   |
| Operating Temperature Range                | T <sub>use</sub>   | Standard Specifications   | 0                                     | +70                    | °C                |                   |
|  |                    | Extend (Option)   | -40                                   | +85                    |                   |                   |
| Max. Supply Voltage                        | —                  |   | -0.3                                  | +5.0                   | V                 |                   |
| Supply Voltage                             | V <sub>CC</sub>    |   | +2.97                                 | +3.63                  | V                 |                   |
| Current Consumption                        | I <sub>CC</sub>    |   | —                                     | 85                     | mA                |                   |
| Disable Current                            | I <sub>dis</sub>   |   | —                                     | 5                      | mA                |                   |
| Symmetry                                   | SYM                | 50ohm @crossing point   | 45                                    | 55                     | %                 |                   |
| Rise/ Fall Time (20% to 80% Output Level)  | tr/ tf             | 50ohm   | —                                     | 0.7                    | ns                |                   |
| Low Level Output Voltage <sup>Note2</sup>  | V <sub>OL</sub>    |   | —                                     | V <sub>CC</sub> -1.620 | V                 |                   |
| High Level Output Voltage <sup>Note2</sup> | V <sub>OH</sub>    |   | V <sub>CC</sub> -1.025                | —                      | V                 |                   |
| Output Load                                | —                  | LV-PECL Output  | —                                     | 50                     | ohm               |                   |
| Input Voltage Range                        | V <sub>IN</sub>    |   | 0                                     | +3.3                   | V                 |                   |
| Low Level Input Voltage <sup>Note2</sup>   | V <sub>IL</sub>    |   | —                                     | 30% V <sub>CC</sub>    | V                 |                   |
| High Level Input Voltage <sup>Note2</sup>  | V <sub>IH</sub>    |   | 70% V <sub>CC</sub>                   | —                      | V                 |                   |
| Input Resistance                           | —                  |   | 10                                    | —                      | Mohm              |                   |
| Disable Time                               | t <sub>dis</sub>   |   | —                                     | 200                    | ns                |                   |
| Enable Time                                | t <sub>ena</sub>   |   | —                                     | 20                     | ms                |                   |
| Start-up Time                              | t <sub>str</sub>   | @Minimum operating voltage to be 0 sec.   | —                                     | 10                     | ms                |                   |
| Phase Jitter                               | J <sub>Phase</sub> | @122.88MHz  | BW : 12kHz to 20MHz                   | —                      | 0.3               | ps                |
|  |                    | @122.88MHz  | @10Hz offset                          | Typ. -71               | dBc/ Hz           |                   |
|  |                    |   | @100Hz offset                         | Typ. -102              |                   |                   |
|  |                    |   | @1kHz offset                          | Typ. -128              |                   |                   |
|  |                    |   | @10kHz offset                         | Typ. -146              |                   |                   |
|  |                    |   | @100kHz offset                        | Typ. -152              |                   |                   |
|  |                    |   | @1MHz offset                          | Typ. -156              |                   |                   |
| @10MHz offset                              | Typ. -157          |   |                                       |                        |                   |                   |

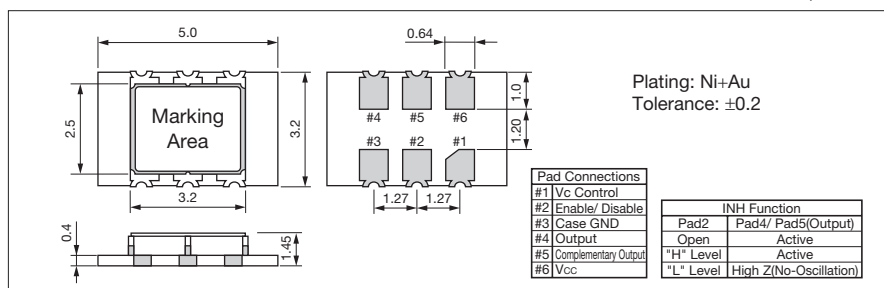
Note : All electrical characteristics are defined at the maximum load and operating temperature range.

Note1: Please contact us for inquiry about operating temperature range, available frequencies and other conditions.

Note2: DC characteristic

### Dimensions

(Unit: mm)



### Recommended Land Pattern

(Unit: mm)

