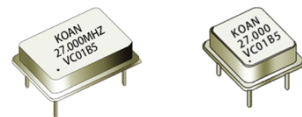


## 压控振荡器 Voltage Controlled Crystal Oscillator: KV08 KV14

### Feature 特征

- VCXO allow for precise frequency tuning over typical range  $\pm 80 \sim 200$ ppm by adjusting the voltage on the control (Vc) pin 压控晶振可以通过调节控制引脚上的电压进行微调，频率微调范围为  $\pm 80 \sim \pm 200$ ppm
- Ideal for systems requiring frequency alignment and synchronization 适用于频率同步和微调系统



### General Specifications 规格参考

| PARAMETER                   | 性能参数    | KV08 KV14                                       |                      |
|-----------------------------|---------|-------------------------------------------------|----------------------|
| Frequency Range             | 频率范围    | 4.000~50.000MHz                                 |                      |
| Supply Voltage              | 供电电压    | +3.3V ( $\pm 10\%$ )                            | +5.0V ( $\pm 10\%$ ) |
| Center Control Voltage      | 中心控制电压  | 1.65Vdc (0.3V~3.0V)                             | 2.5Vdc (0.5V~4.5V)   |
| Output Logic                | 输出波形    | CMOS                                            |                      |
| Output Load                 | 输出负载    | 15pF                                            |                      |
| Frequency Tolerance         | 调整频差    | $\pm 20$ ppm                                    |                      |
| Current Consumption         | 工作电流    | 20mA max                                        |                      |
| Output Logic High "1"       | 输出电平 高  | 0.9Vdd min                                      |                      |
| Output Logic Low "0"        | 输出电平 低  | 0.1Vdd max                                      |                      |
| Frequency Pulling Range     | 压控范围    | $\pm 80 \sim \pm 200$ ppm                       |                      |
| Integrated Phase Jitter     | 抖动      | 1ps max (12KHz~20MHz)                           |                      |
| Input Impedance             | 输入电阻    | 5M $\Omega$ typical                             |                      |
| Rise & Fall Time            | 上升下降时间  | 4ns typ.; 6ns max                               |                      |
| Start-up Time               | 起振时间    | 5ms typ.; 10ms max                              |                      |
| Output Enable/Disable Time  | 启动/禁用时间 | Enable: 2ms max;<br>Disable: 100ns max.         |                      |
| Linearity                   | 非线性误差   | $\pm 6\%$ typical, $\pm 10\%$ max               |                      |
| Duty Cycle                  | 占空比     | 45~55%                                          |                      |
| Modulation Bandwidth (-3dB) | 调制宽带    | 10KHz min. (Vcontrol=1.65V/2.5V)                |                      |
| Aging Per Year              | 老化率     | $\pm 3$ ppm~ $\pm 5$ ppm/year                   |                      |
| Storage Temperature Range   | 储存温度范围  | $-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$ |                      |

#### Frequency Stability 温度频差 VS Operating Temperature Range 温度范围

| Temp. Code | Temp.\ppm | $\pm 10$ | $\pm 20$ | $\pm 30$ | $\pm 50$ | $\pm 100$ |
|------------|-----------|----------|----------|----------|----------|-----------|
| B          | -20~70°C  | ○        | ○        | ○        | ○        | ○         |
| C          | -40~85°C  |          | ○        | ○        | ○        | ○         |
| D          | -55~85°C  |          |          |          | ○        | ○         |
| E          | -55~105°C |          |          |          | ○        | ○         |
| F          | -55~125°C |          |          |          |          | ○         |

NOTE: Please consult for other specifications 若有其它规格需求请告知

■ Outline Dimensions (Unit: mm) 外形尺寸

KV08

| Pin | Connection      |
|-----|-----------------|
| #1  | Control Voltage |
| #4  | Ground          |
| #5  | Output          |
| #8  | Supply Voltage  |

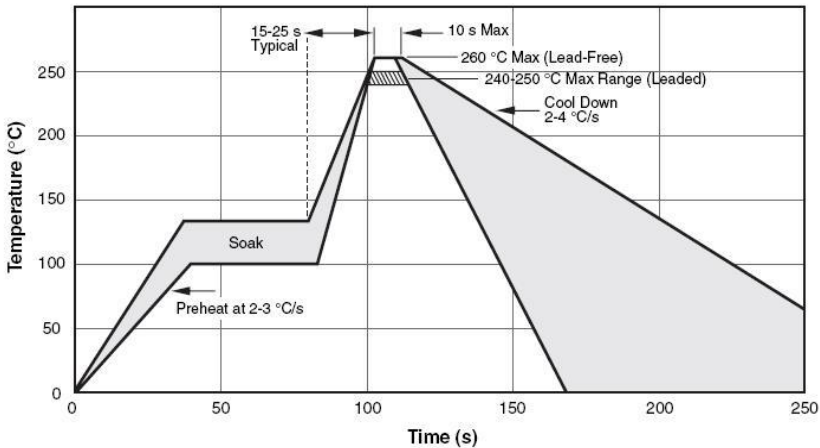
KV14

| Pin | Connection      |
|-----|-----------------|
| #1  | Control Voltage |
| #7  | Ground          |
| #8  | Output          |
| #14 | Supply Voltage  |

■ Part Number Guide 产品编号

|             |   |               |   |             |   |           |   |               |   |               |   |           |
|-------------|---|---------------|---|-------------|---|-----------|---|---------------|---|---------------|---|-----------|
| <u>KV08</u> | - | <u>27.000</u> | - | <u>80</u>   | - | <u>33</u> | - | <u>C</u>      | - | <u>30</u>     | - | <u>NS</u> |
| ↓           |   | ↓             |   | ↓           |   | ↓         |   | ↓             |   | ↓             |   | ↓         |
| 型号          | - | 标称频率          | - | 压控范围        | - | 工作电压      | - | 工作温度          | - | 温度频差          | - | 特殊要求      |
| ‘KV’: 压控系列  |   |               |   | 80=±80ppm   |   |           |   | B: -20~+70°C  |   | 10 = ±10ppm   |   |           |
| ‘08’: 封装尺寸  |   | (In MHz)      |   | 100=±100ppm |   | 33=3.3V   |   | C: -40~+85°C  |   | 20 = ±20ppm   |   |           |
| DIP-08      |   |               |   | 150=±150ppm |   | 50=5.0V   |   | D: -55~+85°C  |   | 30 = ±30ppm   |   | ‘NS’:特殊要求 |
|             |   |               |   | 200=±200ppm |   |           |   | E: -55~+105°C |   | 50 = ±50ppm   |   |           |
|             |   |               |   |             |   |           |   | F: -55~+125°C |   | 100 = ±100ppm |   |           |

■ Wave Solder Profile 波峰焊





Product Information 产品介绍

|                                                |        |                                      |
|------------------------------------------------|--------|--------------------------------------|
| Average Ramp-up Rate                           | 升温速度   | ~200°C/Second                        |
| Heating Rate during preheat                    | 预热速度   | 1~2°C/second typ.;<br>4°C/second max |
| Final Preheat Temperature Ts                   | 最终预热温度 | ~130°C                               |
| Peak Temperature Tp                            | 最高温度   | 260°C                                |
| Time within +0°C/-5°C of actual temperature tp | 实际温度时间 | 10 seconds                           |
| Ramp-Down Rate                                 | 降温速度   | 5°C/second max                       |

Revision 版本

|            |                    |                         |            |                |
|------------|--------------------|-------------------------|------------|----------------|
| 版本<br>Rev. | 修改页<br>Revise Page | 修改内容<br>Revise Contents | 日期<br>Date | 修改人<br>Reviser |
| 0          | N/A                | Initial issue           | 2020.09.27 | JZ             |
| 1.0        | 1                  | Specs update            | 2025.12.04 | JZ             |