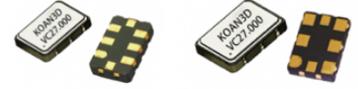


压控振荡器 Voltage Controlled Crystal Oscillator: KV508T KV708T

Feature 特征

- VCXO allow for precise frequency tuning over typical range $\pm 50\sim 200\text{ppm}$ 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 $\pm 50\sim \pm 200\text{ppm}$
- CMOS output with ultra-low RMS phase jitter CMO 输出具有超低相位抖动，信号完整性好
- Ideal for clock synchronization in networking, industrial, and A/V systems 适用于网络通信，工业控制，音频系统中的时钟同步应用



General Specifications 规格参考

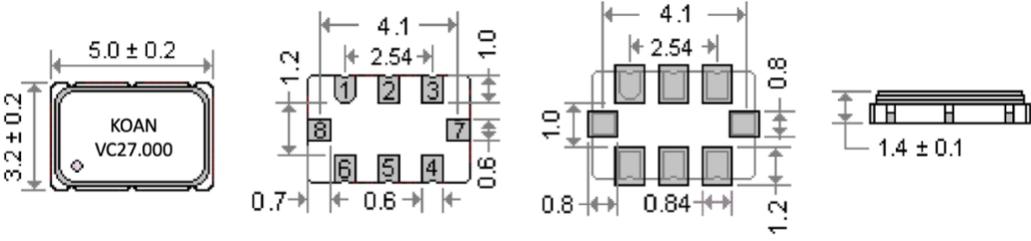
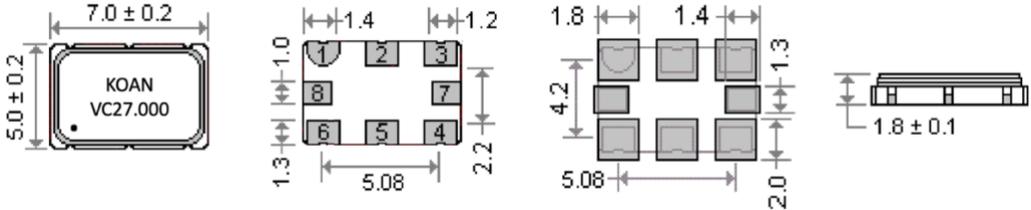
| PARAMETER | 性能参数 | KV508T KV708T | | |
|-----------------------------|---------|---|--------------------------|------------------------|
| Frequency Range | 频率范围 | 10.0 ~ 245.0MHz | | |
| Supply Voltage | 供电电压 | +1.8V ($\pm 10\%$) | +2.5V ($\pm 10\%$) | +3.3V ($\pm 10\%$) |
| Center Control Voltage | 中心控制电压 | 0.9Vdc (0V~1.8V) | 1.25Vdc (0.25V~2.25V) | 1.65Vdc (0.3V~3.0V) |
| Output Logic | 输出波形 | CMOS | | |
| Output Load | 输出负载 | 15pF | | |
| Frequency Tolerance | 调整频差 | $\pm 20\text{ppm}$ | | |
| Current Consumption | 工作电流 | 70mA typical @50MHz; 80mA typical @250MHz | | |
| 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 | $\pm 50\sim \pm 200\text{ppm}$ | | |
| Integrated Phase Jitter | 抖动 | 159fs RMS Phase Jitter typ.@156.250MHz (12KHz~20MHz) | | |
| Input Impedance | 输入电阻 | 5M Ω typical | | |
| Rise & Fall Time | 上升下降时间 | 5ns max. | | |
| Start-up Time | 起振时间 | 10ms max. | | |
| Output Enable/Disable Time | 启动/禁用时间 | Enable: 2.5ms max. Disable: 10 μ s max. | | |
| Linearity | 非线性误差 | 1% typ.; 10% max. | | |
| Duty Cycle | 占空比 | 45~55% ($f \leq 40\text{MHz}$); 40~60% ($f > 40\text{MHz}$) | | |
| Modulation Bandwidth (-3dB) | 调制宽带 | 10KHz min. | | |
| Aging Per Year | 老化率 | $\pm 3\text{ppm} \sim \pm 5\text{ppm}/\text{year}$ | | |
| 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 | ± 20 | ± 25 | ± 30 | ± 50 | ± 100 |
|------------|-----------|----------|----------|----------|----------|-----------|
| B | -20~70°C | o | o | o | o | o |
| C | -40~85°C | | o | o | o | o |
| E | -40~105°C | | | | o | o |
| F | -55~125°C | | | | | o |

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

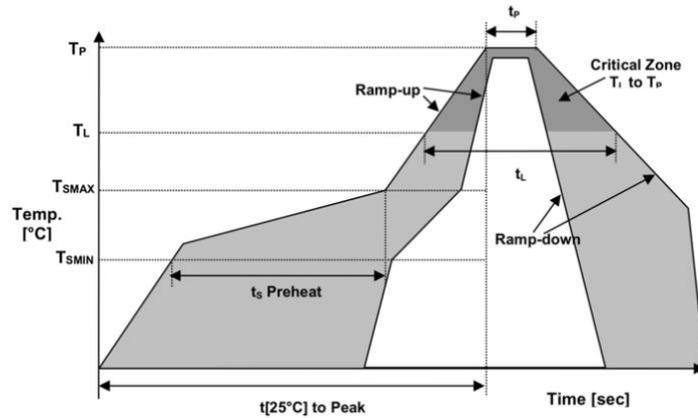
■ Outline Dimensions (Unit: mm) 外形尺寸

| <p>KV508T</p> |  | | | | | | | | | | | | | | | | | | |
|----------------------|---|-----|------------|----|-----------------|----|-----------|----|--------|----|--|----|---|----|----------------|----|----------------|----|----------------|
| <p>KV708T</p> |  | | | | | | | | | | | | | | | | | | |
| | <table border="1" data-bbox="669 1144 1101 1438"> <thead> <tr> <th>Pin</th> <th>Connection</th> </tr> </thead> <tbody> <tr> <td>#1</td> <td>Control Voltage</td> </tr> <tr> <td>#2</td> <td>Tri-State</td> </tr> <tr> <td>#3</td> <td>Ground</td> </tr> <tr> <td>#4</td> <td>CMOS: Output; PECL or LVDS: Differential</td> </tr> <tr> <td>#5</td> <td>CMOS: N.C.; PECL or LVDS: Complementary</td> </tr> <tr> <td>#6</td> <td>Supply Voltage</td> </tr> <tr> <td>#7</td> <td>Do not Connect</td> </tr> <tr> <td>#8</td> <td>Do not Connect</td> </tr> </tbody> </table> | Pin | Connection | #1 | Control Voltage | #2 | Tri-State | #3 | Ground | #4 | CMOS: Output; PECL or LVDS: Differential | #5 | CMOS: N.C.; PECL or LVDS: Complementary | #6 | Supply Voltage | #7 | Do not Connect | #8 | Do not Connect |
| Pin | Connection | | | | | | | | | | | | | | | | | | |
| #1 | Control Voltage | | | | | | | | | | | | | | | | | | |
| #2 | Tri-State | | | | | | | | | | | | | | | | | | |
| #3 | Ground | | | | | | | | | | | | | | | | | | |
| #4 | CMOS: Output; PECL or LVDS: Differential | | | | | | | | | | | | | | | | | | |
| #5 | CMOS: N.C.; PECL or LVDS: Complementary | | | | | | | | | | | | | | | | | | |
| #6 | Supply Voltage | | | | | | | | | | | | | | | | | | |
| #7 | Do not Connect | | | | | | | | | | | | | | | | | | |
| #8 | Do not Connect | | | | | | | | | | | | | | | | | | |

■ Part Number Guide 产品编号

| | | | | | | | | | | | | |
|-----------------|---|---------------|---|-------------|---|-----------|---|---------------|---|---------------|---|-----------|
| KV508T | - | 27.000 | - | 100 | - | 33 | - | C | - | 30 | - | NS |
| ↓ | | ↓ | | ↓ | | ↓ | | ↓ | | ↓ | | ↓ |
| 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 | | | | 50=±50ppm | | | | B: -20~+70°C | | 10 = ±10ppm | | |
| ‘508’: 封装尺寸 | | | | 80=±80ppm | | 18=1.8V | | C: -40~+85°C | | 20 = ±20ppm | | |
| 5.0x3.2mm 8-pad | | (In MHz) | | 100=±100ppm | | 25=2.5V | | E: -40~+105°C | | 30 = ±30ppm | | ‘NS’:特殊要求 |
| ‘T’: 输出波形 | | | | 150=±150ppm | | 33=3.3V | | F: -55~+125°C | | 50 = ±50ppm | | |
| CMOS | | | | 200=±200ppm | | | | | | 100 = ±100ppm | | |

■ Reflow Profile 回流焊



| | | | |
|--|------------|-------------------------------|-------------|
| Temperature Min Preheat | 最低预热温度 | T_{smin} | 150°C |
| Temperature Max preheat | 最高预热温度 | T_{smax} | 200°C |
| Time (T_{smin} to T_{smax}) | 时间差 | T_s | 60~120 sec |
| Temperature | 温度 | T_L | 217°C |
| Peak Temperature | 最高温 | T_p | 260 °C |
| Ramp-up Rate | 升温速度 | R_{up} | 3°C/sec max |
| Ramp-down Rate | 降温速度 | R_{down} | 6°C/sec max |
| Time within 5°C of Peak Temperature | 最高温度停留时间 | t_p | 30 sec |
| Time $t[25^\circ\text{C}]$ to peak temperature | 25度到最高温度时间 | $t[25^\circ\text{C}]$ to peak | 480 sec |
| Time | 时间 | t_L | 60~150 sec |