温补振荡器 Temperature Compensated Crystal Oscillator: K(V)T14 K(V)T14S K(V)T14CS

Feature 特征

- Available in CMOS, Clipped Sine, and True Sine Wave output 提供方波/正弦波/削峰正弦波输出类型
- Tight frequency stability ±1.0ppm over -40C° to +85C° 宽温范围频率稳定性低
- VCTCXO option allows frequency tuning via control voltage 支持通过控制电压进行频率微调
- DIP 14 through-hole package for industrial applications 插件封装适合工业级应用
- Ideal for precision timing in communications, instrumentation, RF systems 满足通信，仪器仪表，射频系统中的精密时钟需求

General Specifications 规格参考

<table>
<tr><th>PARAMETER</th><th>性能参数</th><th colspan="2">K(V)T14</th><th colspan="2">K(V)T14S</th><th>K(V)T14CS</th></tr>
<tr><td>Supply Voltage</td><td>工作电压</td><td colspan="5">+3.3V; +5.0V; ±12.0V</td></tr>
<tr><td>Frequency Range</td><td>频率范围</td><td colspan="2">6.0~60.0MHz</td><td colspan="2">10~200MHz</td><td>6.0~60.0MHz</td></tr>
<tr><td>Standard Frequency</td><td>通用频率</td><td colspan="5">10, 12.8, 16.384, 19.2, 20, 24.576, 25, 26, 30.72, 40, 50MHz</td></tr>
<tr><td>Output Waveform</td><td>输出波形</td><td colspan="2">CMOS</td><td colspan="2">Sine</td><td>Clipped Sine</td></tr>
<tr><td>Output Load</td><td>输出负载</td><td colspan="2">15pF</td><td colspan="2">50Ω</td><td>10KΩ//10pF±10%</td></tr>
<tr><td>Output Logic</td><td>输出电平</td><td colspan="2">High: ≥0.9Vdd
Low: ≤0.1Vdd</td><td colspan="3">0.8Vp-p min.</td></tr>
<tr><td>Initial Calibration Tolerance</td><td>调整频差</td><td colspan="5">±0.5~±2.0ppm</td></tr>
<tr><td>Current Consumption</td><td>工作电流</td><td colspan="2">6mA max</td><td colspan="2">36mA max</td><td>6mA max</td></tr>
<tr><td>EFC Linearity</td><td>非线性误差</td><td colspan="5">正向±10% max.</td></tr>
<tr><td colspan="7">**Frequency Stability 频率稳定性 VS**</td></tr>
<tr><td>Operating Temperature Range</td><td>温度范围</td><td colspan="5" rowspan="2">见下表</td></tr>
<tr><td>Frequency Stability</td><td>温度频差</td></tr>
<tr><td>Load Change</td><td>负载变化</td><td colspan="5">±0.2ppm (Load±5%)</td></tr>
<tr><td>Voltage Change</td><td>电压变化</td><td colspan="5">±0.2ppm (Vcc±5%)</td></tr>
<tr><td>Aging</td><td>老化率</td><td colspan="5">±1.0ppm/year max</td></tr>
<tr><td>Frequency Tunning Method</td><td>频率调节方式</td><td colspan="5">电压调节/机械微调/NC</td></tr>
<tr><td>Control Voltage Range</td><td>控制电压范围</td><td colspan="5">1.5±1.0V</td></tr>
<tr><td>Frequency Tuning Range</td><td>频率调节范围</td><td colspan="5">±5ppm min.</td></tr>
<tr><td>Duty Cycle</td><td>占空比</td><td colspan="5">45~55%</td></tr>
<tr><td>Rise & Fall Time</td><td>上升下降时间</td><td colspan="5">10ns max.</td></tr>
<tr><td rowspan="2">Phase Noise @10MHz</td><td rowspan="2">相位噪声 Max
(dBc/Hz)</td><td>-80</td><td>-115</td><td>-140</td><td>-145</td><td>-150</td></tr>
<tr><td>10Hz</td><td>100Hz</td><td>1kHz</td><td>10kHz</td><td>100kHz</td></tr>
<tr><td>Input Impedance</td><td>输入电阻</td><td colspan="2">1.0MΩ min.</td><td colspan="2">-</td><td>-</td></tr>
<tr><td>Modulation Bandwidth</td><td>调制宽带</td><td colspan="5">3KHz min.</td></tr>
<tr><td>Start-up Time</td><td>起振时间</td><td colspan="5">2.0ms typ. 5.0ms max.</td></tr>
<tr><td>Storage Temperature Range</td><td>储存温度范围</td><td colspan="5">-55°C~+125°C</td></tr>
</table>

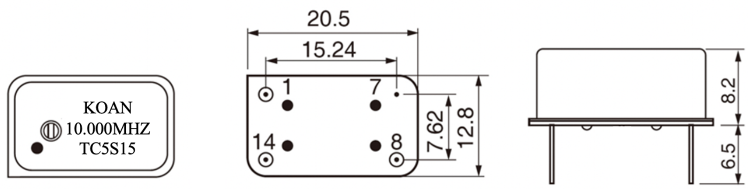
<table>
<tr><th colspan="8">Frequency Stability 温度频差 VS Operating Temperature Range 温度范围</th></tr>
<tr><td>Temp. Code</td><td>Temp.\ppm</td><td>±0.5</td><td>±1.0</td><td>±2.0</td><td>±2.5</td><td>±3.0</td><td>±5.0</td></tr>
<tr><td>A</td><td>-10~60°C</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td></tr>
<tr><td>B</td><td>-20~70°C</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td></tr>
<tr><td>C</td><td>-40~85°C</td><td></td><td>○</td><td>○</td><td>○</td><td>○</td><td>○</td></tr>
</table>

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

Product Information 产品介绍

■ Outline Dimensions (Unit: mm) 外形尺寸

KT14
KT14S
KT14CS

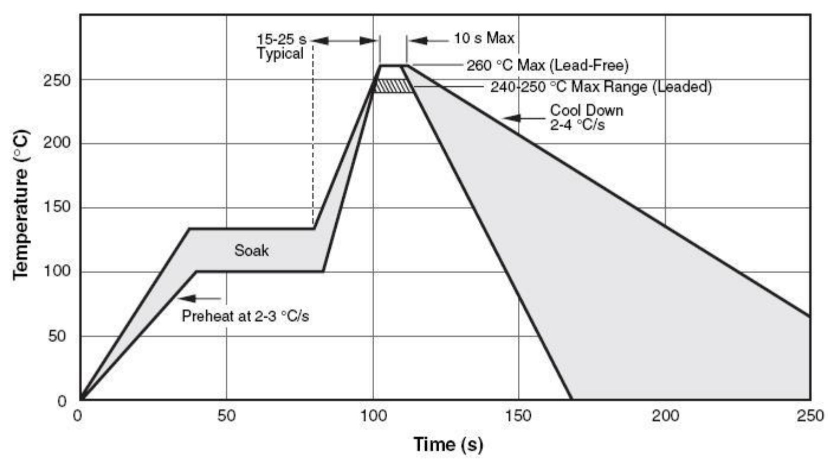


Pin	Connection
#1	GND or NC for TCXO Voltage Control for VCTCXO
#7	Ground
#8	Output
#14	Supply Voltage

■ Part Number Guide 产品编号

K(V)T14CS	-	20.000	-	33	-	C	-	03	-	NS
↓		↓		↓		↓		↓		↓
型号	-	标称频率	-	工作电压	-	工作温度	-	温度频差	-	特殊要求
'KT':温补系列 KT: TCXO KVT: VCTCXO **'14'**:封装尺寸 DIP-14 **'CS'**: 输出波形 Clipped Sine		(In MHz)		33=3.3V 50=5.0V 12=12V		A: -10~+60°C B: -20~+70°C C: -40~+85°C		A5 = ±0.5ppm 01 = ±1.0ppm 02 = ±2.0ppm 025 = ±2.5ppm 03 = ±3.0ppm 05 = ±5.0ppm		**'NS'**:特殊要求

■ Wave Solder Profile 波峰焊



Average Ramp-up Rate	升温速度	~200°C/Second
Heating Rate during preheat	预热速度	1~2°C/second typ.; 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