

Oven Controlled Crystal Oscillator (恒温振荡器) - KO1409T

Feature 特征

- High Stability; IT-cut Crystal 高稳定 IT 切晶片
- Voltage Control (Electronic Frequency Tuning) is standard 有电压控制



RoHS
Compliant
KOAN

Applications 应用

- Mobile base station defense (mobile target display radar), navigation, frequency counters, spectrum and network analysis instruments (frequency standards) 移动通信基站国防(移动目标显示雷达),导航, 频率计数器, 频谱和网络分析仪器(频率标准)

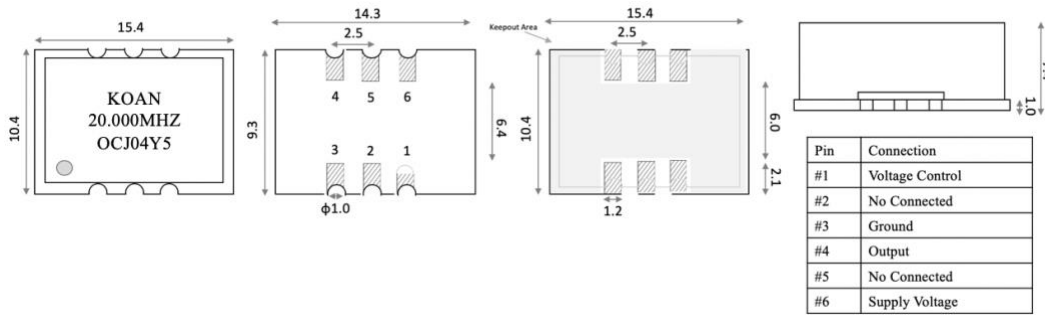
General Specifications 规格参考

| PARAMETER | 性能参数 | KO1409T |
|---------------------------------------|--------|--|
| Frequency Range | 频率范围 | 5.0~40.0MHz |
| Supply Voltage | 工作电压 | +3.3V±5% |
| Control Voltage Center | 中心控制电压 | +1.65V |
| Initial Calibration Tolerance | 调整频差 | ±0.5ppm max |
| Type of Crystal Cut | 晶体切法 | IT-cut |
| Output Logic | 输出波形 | HCMOS |
| Output Load | 输出负载 | 15pF |
| Frequency Stability 频率温度稳定度 VS | | |
| Temperature | 温度 | 见下表 |
| Voltage Change | 电压变化 | ±10ppb max (supply voltage ±5% variation) |
| Warm-up Time | 预热时间 | 5 minutes max |
| Aging | 老化率 | ±2ppm max over 10 years |
| Load Change | 负载变化 | ±10ppb max |
| Reflow | 回流焊 | ±1.0ppm max |
| Frequency Deviation Range | 电压调整 | ±5ppm min |
| Input Impedance | 输入电阻 | 50KΩ min. |
| EFC Linearity | 非线性误差 | ±10% max. |
| Power Dissipation | 功耗 | 0.6W max at steady-state; 600mA max at turn-on |
| Output Logic High | 输出电平 高 | +2.4V min. |
| Output Logic Low | 输出电平 低 | +0.4V max. |
| Phase noise | 相位噪声 | -98dBc at 10Hz |
| Duty Cycle | 占空比 | 45~55% |
| Rise & Fall Time | 上升下降时间 | 7 ns max. |
| Storage Temperature Range | 储存温度范围 | -55°C~+125°C |
| Shock | 冲击 | 2000 G's, 0.3ms 1/2sine |
| Vibration | 振动 | 10 to 2000 Hz/10G's |

| Frequency Stability 温度频差 VS Operating Temperature Range 温度范围 | | | |
|--|------------|-------------|-------------|
| Temp. Code | Temp. \ppb | ±20ppb (B2) | ±30ppb (B3) |
| A | -10~60°C | ○ | ○ |
| B | -20~70°C | ○ | ○ |
| C | -40~85°C | ○ | ○ |

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

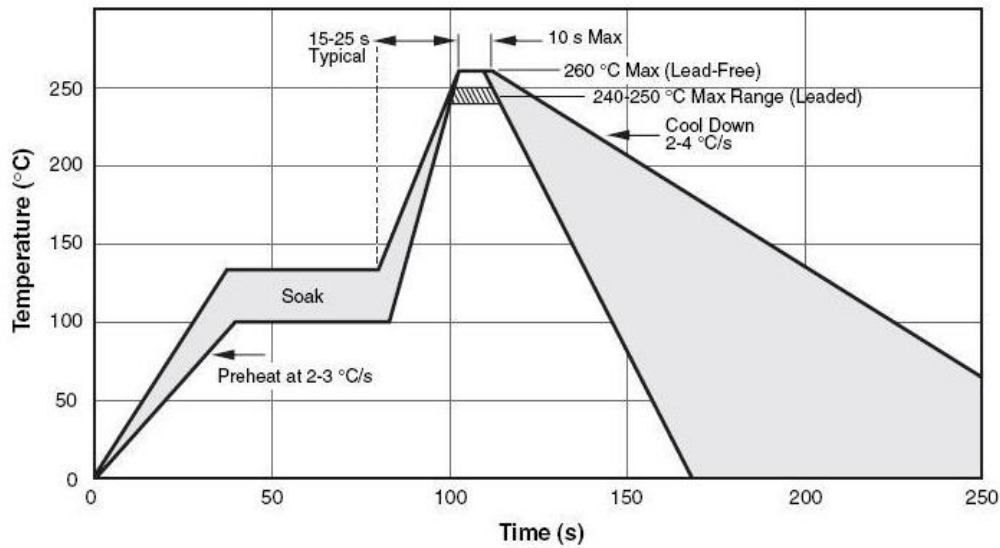
Outline Dimensions (Unit: mm) 外形尺寸



Part Number Guide 产品编号

| KO1409T | - | 20.000 | - | 33 | - | A | - | B3 | - | NS |
|---|---|---------------|---|-----------|---|--|---|----------------------------|---|-----------|
| ↓ | | ↓ | | ↓ | | ↓ | | ↓ | | ↓ |
| 型号 | - | 标称频率 | - | 工作电压 | - | 工作温度 | - | 温度频差 | - | 特殊要求 |
| 'KO':产品系列 '1409':封装尺寸 14.3x9.3mm 'T':输出波形 HCMOS | - | (In MHz) | - | 33=3.3V | - | A: -10~+60°C B: -20~+70°C C: -40~+85°C | - | B2 = ±20ppb B3 = ±30ppb | - | '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 typical; 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 |