

## 恒温振荡器 Oven Controlled Crystal Oscillator: KO3627T KO3627S

### Feature 特征

- High Stability AT-cut or SC-cut Crystal 高稳定性(AT/SC 切晶片)
- HCMOS or True Sine output Waveform 可选 HCMOS 或正弦波
- Voltage Control is standard 有电压控制



### General Specifications 规格参考

| PARAMETER                     | 性能参数         | KO3627T                                                 |            |             | KO3627S     |             |  |
|-------------------------------|--------------|---------------------------------------------------------|------------|-------------|-------------|-------------|--|
| Supply Voltage                | 工作电压         | +3.3V±5% ; +5.0V±5% ; +12.0V±5%                         |            |             |             |             |  |
| Output Waveform               | 输出波形         | HCMOS                                                   |            |             | True Sine   |             |  |
| Frequency Range               | 频率范围         | 5~50MHz                                                 |            |             | 5~160MHz    |             |  |
| Standard Frequency            | 通用频率         | 5, 10, 12.5, 20, 38.88, 80, 100MHz                      |            |             |             |             |  |
| Output Load                   | 输出负载         | 15pF (50pF max)                                         |            |             | 50Ω         |             |  |
| Output Logic                  | 输出电平         | High: ≥0.9Vdd; Low: ≤0.1Vdd                             |            |             | 5~9dBm      |             |  |
| Initial Calibration Tolerance | 基准温度 初始精度    | ±50ppb~±200ppb                                          |            |             |             |             |  |
| Voltage Control               | 压控范围         | 0~3.3V(Vcon=1.65V); 0~5V(Vcon=2.5V) 或 固定                |            |             |             |             |  |
| Frequency Adjustment          | 频率调整         | ±2.0~5.0ppm(AT-cut); ±0.3~1.0ppm(SC-cut)                |            |             |             |             |  |
| EFC Linearity                 | 非线性误差        | 正向±10% max.                                             |            |             |             |             |  |
| Power Dissipation             | 功耗           | 1.5W max at steady-state@25°C; 4.5W max at turn-on      |            |             |             |             |  |
| Frequency Stability 频率稳定性     |              |                                                         |            |             |             |             |  |
| Temperature                   | 温度           | 见下表                                                     |            |             |             |             |  |
| Load Change                   | 负载变化         | ±0.5~±10ppb                                             |            |             |             |             |  |
| Voltage Change                | 电压变化         | ±0.5~±10ppb                                             |            |             |             |             |  |
| Warm-up Time                  | 预热时间         | 5 minute max. within ±50ppb of its reference frequency. |            |             |             |             |  |
| Aging                         | 老化率          | ±0.5~±5ppb per day ; ±20~±500ppb per year               |            |             |             |             |  |
| Harmonic                      | 谐波           | -                                                       |            |             | <-30dBc     |             |  |
| Spurious                      | 杂散抑制         | -                                                       |            |             | <-75dBc     |             |  |
| Duty Cycle                    | 占空比          | 45~55%                                                  |            |             | -           |             |  |
| Rise & Fall Time              | 上升下降时间       | 7 ns max.                                               |            |             | -           |             |  |
| Phase Noise                   | 相位噪声(dBc/Hz) | -75 → -110                                              | -90 → -130 | -120 → -150 | -140 → -160 | -150 → -165 |  |
|                               |              | 1Hz                                                     | 10Hz       | 100Hz       | 1KHz        | >10KHz      |  |
| 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 V.S. Operating Temperature Range 温度范围

| 温度          | 系列 | 标准<br>Standard Series | 高稳<br>High Stability | 超优短稳<br>Ultra Low Short-term Stability<br>Allan Deviation≤5x10 <sup>-12</sup> (1s) | 低相噪<br>Low Phase Noise |
|-------------|----|-----------------------|----------------------|------------------------------------------------------------------------------------|------------------------|
| 频率范围        |    | 5~50MHz               | 5~40MHz              | 5/10MHz                                                                            | 10~160MHz              |
| A: -10~60°C |    | ±3~±50ppb             | ±0.1~±0.5ppb         | ±1~±30ppb                                                                          | ±50~±100ppb            |
| B: -20~70°C |    | ±5~±50ppb             | ±0.5~±1ppb           | ±3~±30ppb                                                                          | ±50~±200ppb            |
| C: -40~85°C |    | ±20~±100ppb           | ±1~±10ppb            | ±10~±30ppb                                                                         | ±100~±500ppb           |

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

KO3627T  
KO3627S

1 EFC

2 NC

3 VCC

4 OUT

5 GND

36.2±0.2

27.2±0.2

6.8

6.8

3

2

1

4

5

16.0±0.2

5.0±0.2

| Pin | Connection                     |
|-----|--------------------------------|
| #1  | Voltage Control EFC / NC       |
| #2  | Reference Voltage Control / NC |
| #3  | Supply Voltage                 |
| #4  | Output                         |
| #5  | Ground/Case                    |

Part Number Guide 产品编号

|         |   |        |   |      |   |      |   |      |   |      |
|---------|---|--------|---|------|---|------|---|------|---|------|
| KO3627T | - | 20.000 | - | 33   | - | C    | - | A1   | - | NS   |
| ↓       |   | ↓      |   | ↓    |   | ↓    |   | ↓    |   | ↓    |
| 型号      | - | 标称频率   | - | 工作电压 | - | 工作温度 | - | 温度频差 | - | 特殊要求 |

‘KO’:温补系列  
‘3627’:封装尺寸  
36.2x27.7mm/DIP  
‘T’:输出波形 HCMOS

(In MHz)

33=3.3V  
50=5.0V  
12=12.0V

A: -10~+60°C  
B: -20~+70°C  
C: -40~+85°C

C3 = ±0.003ppm=±3ppb  
C5 = ±0.005ppm=±5ppb  
B2 = ±0.02ppm =±20ppb  
B3 = ±0.03ppm =±30ppb  
B5 = ±0.05ppm=±50ppb  
A1 = ±0.1ppm =±100ppb

‘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                    |

KOAN® 晶振

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