

Oven Controlled Crystal Oscillator (恒温振荡器) - KO2020T/KO2020S

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



Applications 应用

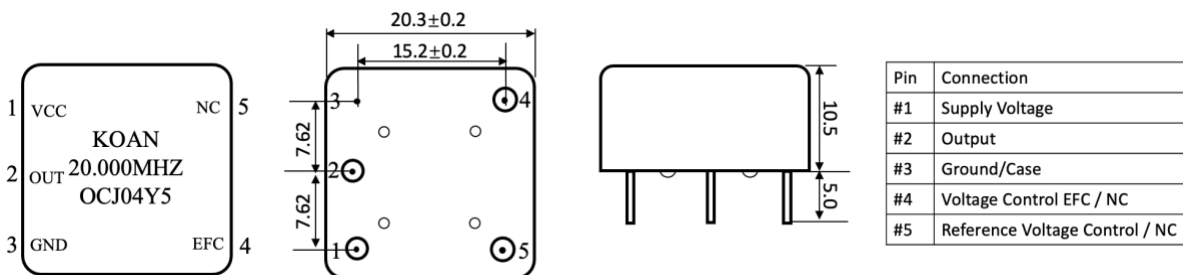
Mobile base station defense (mobile target display radar), navigation, frequency counters, spectrum and network analysis instruments (frequency standards) 移动通信基站国防(移动目标显示雷达),导航, 频率计数器, 频谱和网络分析仪器(频率标准)

General Specifications 规格参考

PARAMETER	性能参数	KO2020T			KO2020S	
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: ≥0.9V _{dd} Low: ≤0.1V _{dd}			5~9dBm	
Initial Calibration Tolerance	基准温度初始精度	±50ppb~±500ppb				
Voltage Control	压控范围	0~3.3V(V _{con} =1.65V); 0~5V(V _{con} =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; 3.6W max at turn-on				
Frequency Stability 频率稳定性						
Temperature	温度	见下表				
Load Change	负载变化	±1~±15ppb				
Voltage Change	电压变化	±1~±15ppb				
Warm-up Time	预热时间	5 minute max. within ±50ppb of its reference frequency.				
Aging	老化率	±2~±10ppb per day; ±100~±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)	-70 → -100	-90 → -110	-120 → -140	-135 → -150	-145 → -155
		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 Standard Series	高稳 High Stability	低相噪 Low Phase Noise
	频率范围	5~50MHz	5~40MHz	10~160MHz
	A: -10~60°C	±10~±50ppb	±1~±2ppb	±50~±100ppb
	B: -20~70°C	±10~±100ppb	±2~±5ppb	±100~±200ppb
	C: -40~85°C	±30~±100ppb	±5~±10ppb	±200~±500ppb
	E: -55~105°C	±100~±500ppb	-	-

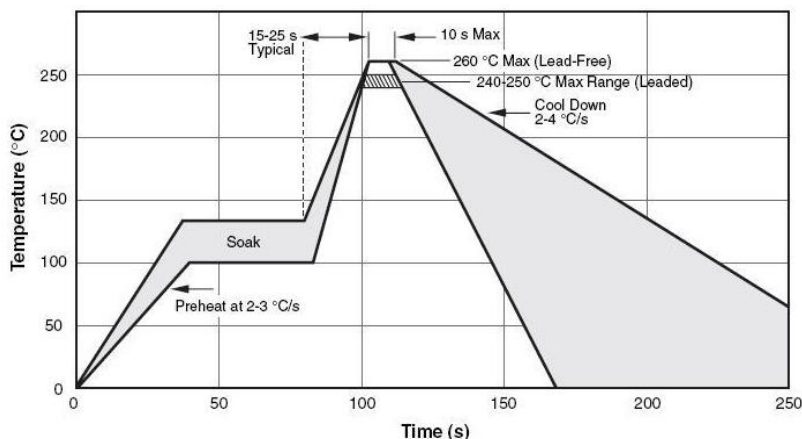
Outline Dimensions (Unit: mm) 外形尺寸



Part Number Guide 产品编号

系列	封装	输出波形	标称频率	工作电压	工作温度	温度频差	特殊要求
KOAN OCXO	5050: 50.8x50.8mm/DIP 3627: 36.2x27.7mm/DIP 2525: 25.4x25.4mm/DIP 2020: 20.3x20.3mm/DIP 2013: 20.3x13.2mm/DIP	T= HCMOS S=True Sine	(In MHz)	33=3.3V 50=5.0V 12=12.0V	A: -10~+60°C B: -20~+70°C C: -40~+85°C E: -55~105°C	C3 = ±3ppb C5 = ±5ppb B1 = ±10ppb ...	'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

Revision 版本

版本 Rev.	修改页 Revise Page	修改内容 Revise Contents	日期 Date	修改人 Reviser
1.0	NA	-	2021.01.22	JH