

温补振荡器 Temperature Compensated Crystal Oscillator: K(V)T50 K(V)T50CS

Feature 特征

- CMOS and Clipped Sine wave output available 可选 CMOS 和削峰正弦波输出
- Wide frequency range and tight frequency stability ± 1.0 ppm over -40°C to $+85^{\circ}\text{C}$ 频率范围宽, 频率稳定性高
- VCTCXO option allows frequency tuning via control voltage 支持通过控制电压进行频率微调
- Ideal for GPS, communication, industrial, and measurement systems 适用于 GPS, 通信设备, 工业控制和测量系统等



General Specifications 规格参考

PARAMETER	性能参数	K(V)T50			K(V)T50CS		
Supply Voltage	工作电压	+1.8V; +2.5V; +3.0V; +3.3V					
Frequency Range	频率范围	6.4~52.0MHz					
Standard Frequency	通用频率	10, 16.384, 19.2, 20, 25MHz					
Output Waveform	输出波形	CMOS			Clipped Sine Wave		
Output Load	输出负载	15pF			10KΩ/10pF		
Output Logic	输出电平	High: ≥0.9Vdd Low: ≤0.1Vdd			0.8Vp-p min		
Duty Cycle	占空比	45~55%			-		
Rise & Fall Time	上升下降时间	6ns max.			-		
Initial Calibration Tolerance	调整频差	±2.0ppm max					
Current Consumption	工作电流	8mA max			3.5mA max		
EFC Linearity	非线性误差	正向±10% max.					
Frequency Stability 频率稳定性 VS							
Operating Temperature Range	温度范围	-20~+70℃			-40~+85℃		
Frequency Stability	温度频差	±0.5~±3.0ppm			±1.0~±3.0ppm		
Load Change	负载变化	±0.3ppm (Load±5%)					
Voltage Change	电压变化	±0.3ppm (Vcc±5%)					
Aging	老化率	±1.0ppm/year max					
Control Voltage Range	控制电压范围	0.9V±0.6V@1.8V; 1.4V±1.0V@2.5V; 1.5±1.0V@3.0V/3.3V					
Frequency Tuning Range	频率调节范围	±5ppm min.					
Phase Noise @10MHz	相位噪声 Max (dBc/Hz)	-80	-115	-135	-145	-150	
		10Hz	100Hz	1kHz	10kHz	100kHz	
Input Impedance	输入电阻	500MΩ min.			1.0MΩ min.		
Modulation Bandwidth	调制宽带	20KHz min.			3KHz min.		
Start-up Time	起振时间	5.0ms typ.; 10.0ms max.			2.0ms typ.; 5.0ms max.		
Storage Temperature Range	储存温度范围	-55℃~+125℃					

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

KT50
KT50CS

Top view of the package showing dimensions: 5.0 ± 0.2 (width) and 3.2 ± 0.2 (height). The part number KOAN3QT 20.000 is printed in the center.

Bottom view of the package showing dimensions: 1.05 ± 0.1 (width), 1.6 (height), 0.7 (height), 2.6 (width), and 1.1 (width). Pin locations are marked #1, #2, #3, and #4. The text "Bottom-View" is centered.

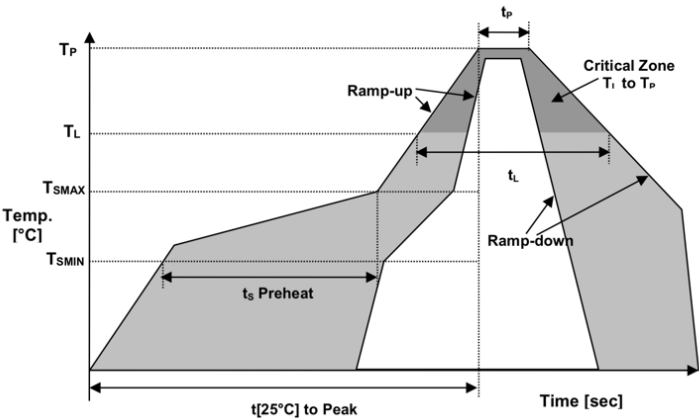
Example of a Terminal Land Pattern showing dimensions: 2.6 (width), 1.3 (width), 1.6 (height), 1.0 (height), and 1.3 (width).

Pin	Connection
#1	GND or NC for TCXO Voltage Control for VCTCXO
#2	Ground
#3	Output
#4	Supply Voltage

Part Number Guide 产品编号

<u>K(V)T50CS</u>	-	<u>20.000</u>	-	<u>33</u>	-	<u>C</u>	-	<u>03</u>	-	<u>NS</u>
↓		↓		↓		↓		↓		↓
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				18=1.8V	B: -20~+70°C			A5=±0.5ppm	‘NS’:特殊要求	
KVT: VCTCXO				25=2.5V	C: -40~+85°C			01 = ±1.0ppm		
‘50’: 封装尺寸 5.0x3.2mm				30=3.0V	D: -55~+85°C			02 = ±2.0ppm		
‘CS’: 输出波形				33=3.3V	E: -55~+105°C			025=±2.5ppm		
Clipped Sine								03 = ±3.0ppm		

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°C] to peak temperature	25度到最高温度时间	t[25°C] to peak	480 sec
Time	时间	t _L	60~150 sec

Revision 版本

版本 Rev.	修改页 Revise Page	修改内容 Revise Contents	日期 Date	修改人 Reviser
0	N/A	Initial issue	2020.09.27	JZ
1.1	1	Specs update	2021.11.17	JH
1.2	2	Part number guide	2022.06.13	JZ