温补振荡器 Temperature Compensated Crystal Oscillator: K(V)T32 K(V)T32CS

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 -40C° to +85C° 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

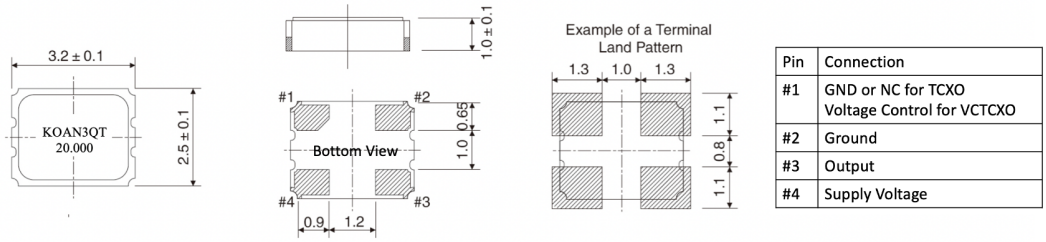
PARAMETER	性能参数	K(V)T32	K(V)T32CS
Supply Voltage	工作电压	+1.8V; 2.5V; +3.0V; +3.3V	2.5V; +3.0V; +3.3V
Frequency Range	频率范围	8.192~60.0MHz	8.192~52.0MHz
Standard Frequency	通用频率	10, 19.2, 20, 25, 26, 30.72, 40MHz	
Output Waveform	输出波形	CMOS	Clipped Sine Wave
Output Load	输出负载	15pF	10KΩ//10pF
Output Logic	输出电平	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	10ns 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	见下表	
Frequency Stability	温度频差		
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	0.9±0.6V@1.8Vdd (Clipped Sine Wave) 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 / 10Hz; -115 / 100Hz; -135 / 1kHz; -145 / 10kHz; -150 / 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°C~+125°C	

Frequency Stability 温度频差 VS Operating Temperature Range 温度范围							
Temp. Code	Temp.\ppm	±0.5	±1.0	±2.0	±2.5	±3.0	±5.0
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

KT32
KT32CS

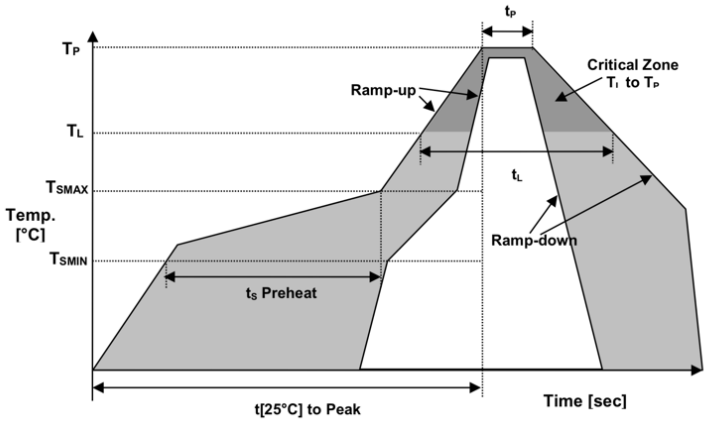


Pin	Connection
#1	GND or NC for TCXO Voltage Control for VCTCXO
#2	Ground
#3	Output
#4	Supply Voltage

■ Part Number Guide 产品编号

K(V)T32CS	-	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 **'32':** 封装尺寸 3.2x2.5mm **'CS'**: 输出波形 Clipped Sine		(In MHz)		18=1.8V 25=2.5V 30=3.0V 33=3.3V		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

■ 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