

温补振荡器 Temperature Compensated Crystal Oscillator: K(V)T20 K(V)T20CS

Feature 特征

- Compact 2.0x1.6 mm package with CMOS and Clipped Sine wave output available 小尺寸 CMOS 和削峰正弦波
- 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

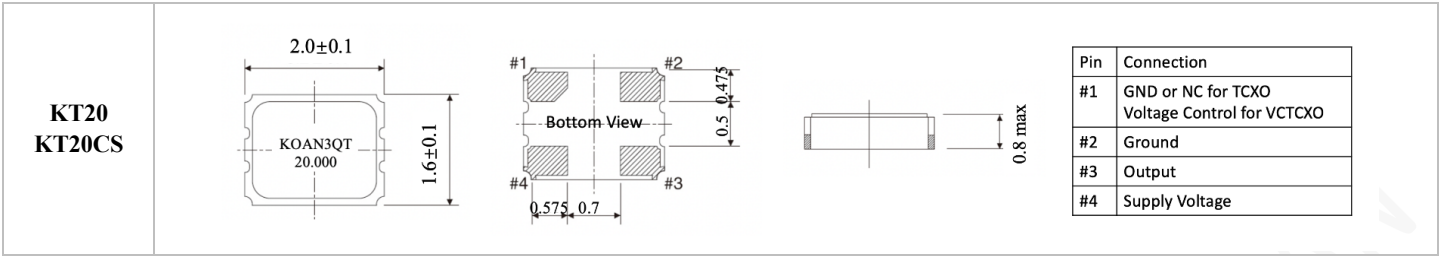
PARAMETER	性能参数	K(V)T20			K(V)T20CS		
Supply Voltage	工作电压	+1.8V; +2.5V; +3.3V					
Frequency Range	频率范围	10.0~52.0MHz					
Standard Frequency	通用频率	16.368, 16.369, 19.2, 26, 33.6, 38.4, 52MHz					
Output Waveform	输出波形	CMOS			Clipped Sine Wave		
Output Load	输出负载	15pF			10KΩ//10pF		
Output Logic	输出电平	High: ≥0.9Vdd Low: ≤0.1Vdd			0.8Vp-p min		
Initial Calibration Tolerance	调整频差	±2.0ppm max					
Current Consumption	工作电流	8mA max			3.5mA 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	±0.2ppm (Load±5%)					
Voltage Change	电压变化	±0.2ppm (Vcc±5%)					
Aging	老化率	±1.0ppm/year max					
Reflow	回流焊	±1.0ppm max					
Control Voltage Range	控制电压范围	0.9±0.6V@1.8Vdd; 1.4±1.0V @2.5Vdd; 1.5±1.0V@3.3Vdd					
Frequency Tuning Range	频率调节范围	±8ppm min.					
Phase Noise @10MHz	相位噪声 Max (dBc/Hz)	-80	-115	-130	-150	-155	
		10Hz	100Hz	1kHz	10kHz	100kHz	
Input Impedance	输入电阻	100KΩ min					
Start-up Time	起振时间	2.0ms 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	$-10\sim 60^{\circ}\text{C}$	o	o	o	o	o	o
B	$-20\sim 70^{\circ}\text{C}$	o	o	o	o	o	o
C	$-40\sim 85^{\circ}\text{C}$		o	o	o	o	o

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

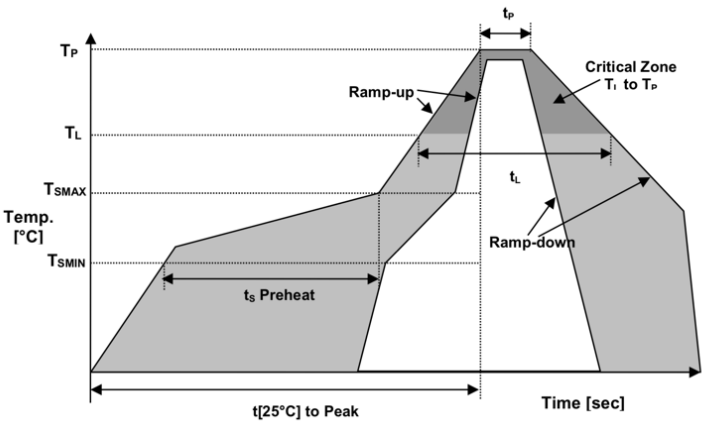
Outline Dimensions (Unit: mm) 外形尺寸



Part Number Guide 产品编号

<u>K(V)T20CS</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								A5 = ±0.5ppm		‘NS’:特殊要求
KT: TCXO			18=1.8V		A: -10~+60°C		01 = ±1.0ppm			
KVT: VCTCXO		(In MHz)	25=2.5V		B: -20~+70°C		02 = ±2.0ppm			
‘20’: 封装尺寸 2.0x1.6mm			33=3.3V		C: -40~+85°C		025 = ±2.5ppm			
‘CS’: 输出波形 Clipped Sine							03 = ±3.0ppm			
							05 = ±5.0ppm			

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