

温补振荡器 Temperature Compensated Crystal Oscillator: K(V)T16CS

Feature 特征

- Ultra-miniature 1.6x1.2mm package; Clipped Sine wave output for low EMI 超小型 1610 封装削峰正弦波输出
- Wide frequency range and tight frequency stability $\pm 1\text{ppm}$ 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



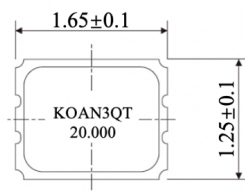
General Specifications 规格参考

PARAMETER	性能参数	K(V)T16CS				
Supply Voltage	工作电压	+1.8V; +2.5V				
Frequency Range	频率范围	13.0~52.0MHz				
Standard Frequency	通用频率	16.368, 16.369, 19.2, 26, 33.6, 38.4, 52MHz				
Output Waveform	输出波形	Clipped Sine Wave				
Output Load	输出负载	10KΩ/10pF				
Output Logic	输出电平	0.8Vp-p min				
Initial Calibration Tolerance	调整频差	±2.0ppm max (After 2 times reflows)				
Current Consumption	工作电流	2.5mA max				
Frequency Stability 频率稳定性 VS						
Operating Temperature Range	温度范围	-30~+85℃			-40~+85℃	
Frequency Stability	温度频差	±1.0ppm max			±2.0ppm max	
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				
Frequency Tuning Range	频率调节范围	±8ppm min.				
Phase Noise @10MHz	相位噪声 Max (dBc/Hz)	-75	-110	-125	-145	-150
		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℃~+125℃				

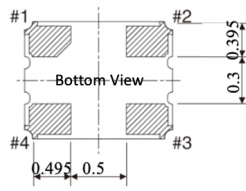
NOTE: Please consult for other specifications 若有其它规格需求请告知

Outline Dimensions (Unit: mm) 外形尺寸

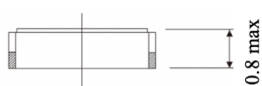
KT16CS



Top view of the KOAN3QT 20,000 package. The package is rectangular with a central square area. The width is 1.65 ± 0.1 mm and the height is 1.25 ± 0.1 mm. The central area is labeled "KOAN3QT 20,000".



Bottom view of the package showing pin locations #1, #2, #3, and #4. The pins are arranged in a square pattern. The dimensions are: 0.495 mm (width of pin #1), 0.5 mm (width of pin #2), 0.3 mm (width of pin #3), and 0.395 mm (width of pin #4). The label "Bottom View" is centered.



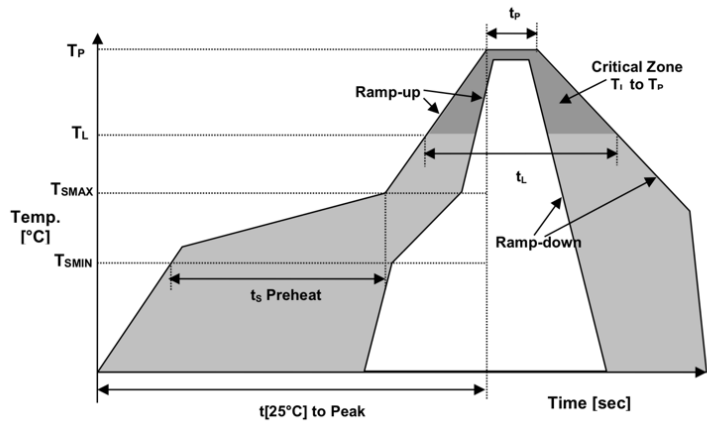
Side view of the package showing a maximum height of 0.8 mm. The package is shown in profile, with the height dimension indicated by a vertical arrow.

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)T16CS</u>	-	<u>20.000</u>	-	<u>33</u>	-	<u>C</u>	-	<u>01</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 KVT: VCTCXO ‘16’: 封装尺寸 1.6x1.2mm ‘CS’: 输出波形 Clipped Sine										
		(In MHz)		18=1.8V 25=2.5V		C: -40~+85°C		A5 = ±0.5ppm 01 = ±1.0ppm 02 = ±2.0ppm		‘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

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