

压控振荡器 Voltage Controlled Crystal Oscillator: KV508C KV708C

Feature 特征

- VCXO allow for precise frequency tuning over typical range $\pm 50 \sim 200$ ppm by adjusting the voltage on the control (Vc) pin 压控晶振可以通过调节控制引脚上的电压进行微调，频率微调范围为 $\pm 50 \sim 200$ ppm
- HCSL differential output for high-speed clock distribution HCSL 差分输出，适用于高速时钟分配和同步应用
- Low phase jitter for precision timing 低相位抖动，确保质量信号和系统稳定性
- Ideal for networking, data communication, and high-performance computing 适用于网络通信，高速数据传输，高性能计算等



General Specifications 规格参考

PARAMETER	性能参数	KV508C KV708C		
Frequency Range	频率范围	15.0~700.0MHz		
Supply Voltage	供给电压	+1.8V ($\pm 10\%$)	+2.5V ($\pm 10\%$)	+3.3V ($\pm 10\%$)
Center Control Voltage	中心控制电压	0.9Vdc (0V~1.8V)	1.25Vdc (0.25V~2.25V)	1.65Vdc (0.3V~3.0V)
Output Logic	输出波形	HCSL		
Output Load	输出负载	50 Ω to Ground		
Frequency Tolerance	调整频差	± 20 ppm		
Current Consumption	工作电流	80mA typ. 100mA max		
Output Logic High "1"	输出电平 高	0.66V~1.15V		
Output Logic Low "0"	输出电平 低	0.0V~0.15V		
Frequency Pulling Range	压控范围	$\pm 50 \sim 200$ ppm		
Integrated Phase Jitter	抖动	151fs RMS Phase Jitter typ. @1480MHz(12KHz~20MHz)		
Input Impedance	输入电阻	5M Ω typical		
Rise & Fall Time	上升下降时间	0.8ns max		
Start-up Time	起振时间	5ms typ.; 10ms max		
Output Enable/Disable Time	启动/禁用时间	Enable: 2.5ms max Disable: 10 μ s max		
Linearity	非线性误差	1% typ.; 10% max		
Duty Cycle	占空比	45~55%		
Modulation Bandwidth (-3dB)	调制宽带	10KHz min.		
Aging Per Year	年老化率	± 3 ppm~ ± 5 ppm/year		
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	± 10	± 20	± 30	± 50	± 100
B	-20~70°C	○	○	○	○	○
C	-40~85°C		○	○	○	○
D	-55~85°C			○	○	○
E	-55~105°C				○	○
F	-55~125°C				○	○

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

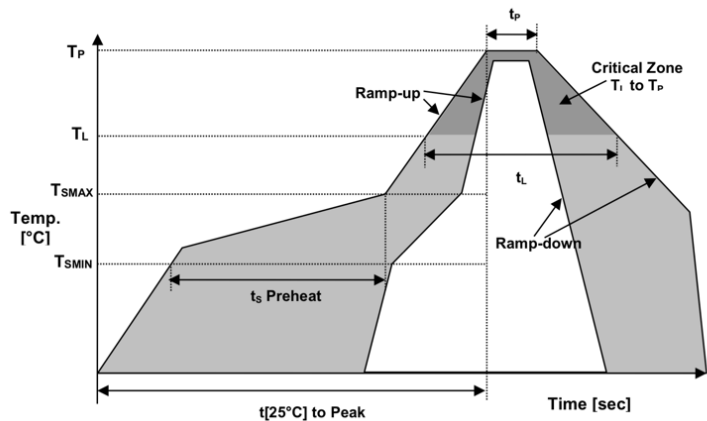
■ Outline Dimensions (Unit: mm) 外形尺寸

KV508C																			
KV708C																			
	<table><tr><th>Pin</th><th>Connection</th></tr><tr><td>#1</td><td>Control Voltage</td></tr><tr><td>#2</td><td>Tri-State</td></tr><tr><td>#3</td><td>Ground</td></tr><tr><td>#4</td><td>CMOS: Output; PECL or LVDS: Differential</td></tr><tr><td>#5</td><td>CMOS: N.C.; PECL or LVDS: Complementary</td></tr><tr><td>#6</td><td>Supply Voltage</td></tr><tr><td>#7</td><td>Do not Connect</td></tr><tr><td>#8</td><td>Do not Connect</td></tr></table>	Pin	Connection	#1	Control Voltage	#2	Tri-State	#3	Ground	#4	CMOS: Output; PECL or LVDS: Differential	#5	CMOS: N.C.; PECL or LVDS: Complementary	#6	Supply Voltage	#7	Do not Connect	#8	Do not Connect
Pin	Connection																		
#1	Control Voltage																		
#2	Tri-State																		
#3	Ground																		
#4	CMOS: Output; PECL or LVDS: Differential																		
#5	CMOS: N.C.; PECL or LVDS: Complementary																		
#6	Supply Voltage																		
#7	Do not Connect																		
#8	Do not Connect																		

■ Part Number Guide 产品编号

<u>KV508C</u>	-	<u>27.000</u>	-	<u>100</u>	-	<u>33</u>	-	<u>C</u>	-	<u>30</u>	-	<u>NS</u>
↓		↓		↓		↓		↓		↓		↓
型号	-	标称频率	-	压控范围	-	工作电压	-	工作温度	-	温度频差	-	特殊要求
‘KV’: 压控系列				50=±50ppm				B: -20~+70°C		10 = ±10ppm		
‘508’: 封装尺寸				80=±80ppm		18=1.8V		C: -40~+85°C		20 = ±20ppm		
5.0x3.2mm 8-pad		(In MHz)		100=±100ppm		25=2.5V		D: -55~+85°C		30 = ±30ppm		‘NS’:特殊要求
‘C’: 输出波形				150=±150ppm		33=3.3V		E: -55~+105°C		50 = ±50ppm		
HCSL				200=±200ppm				F: -55~+125°C		100 = ±100ppm		

■ 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	2021.12.25	JZ
1.1	1	Specs update	2024.03.19	JZ