

压控振荡器 Voltage Controlled Crystal Oscillator: KV508D KV708D

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 $\pm 50 \sim \pm 200$ ppm
- LVDS differential output for high-speed, low-noise transmission LVDS 差分输出，适用于高速，低噪声信号传输
- Low phase jitter for clean signal integrity 低相位抖动，确保质量信号和系统稳定性
- Ideal for clock synchronization in networking, industrial, and A/V systems 适用于网络通信，工业控制，音频系统中的时钟同步应用



General Specifications 规格参考

PARAMETER	性能参数	KV508D KV708D	
Frequency Range	频率范围	15.0MHz ~ 2.1GHz	
Supply Voltage	供给电压	+2.5V ($\pm 10\%$)	+3.3V ($\pm 10\%$)
Center Control Voltage	中心控制电压	1.25Vdc (0.25V~2.25V)	1.65Vdc (0.3V~3.0V)
Output Logic	输出波形	LVDS	
Output Load	输出负载	100 Ω between OUT and OUTN	
Frequency Tolerance	调整频差	± 20 ppm	
Current Consumption	工作电流	75mA typ. 90mA max.	
Output Logic High "1"	输出电平 高	1.4V typ. 1.6V max	
Output Logic Low "0"	输出电平 低	1.1V typ. 0.9V min	
Frequency Pulling Range	压控范围	$\pm 50 \sim \pm 200$ ppm	
Integrated Phase Jitter	抖动	163fs RMS Phase Jitter typ. @2000MHz (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	$-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$	

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 $^{\circ}\text{C}$	o	o	o	o	o
C	-40~85 $^{\circ}\text{C}$		o	o	o	o
D	-55~85 $^{\circ}\text{C}$				o	o
E	-55~105 $^{\circ}\text{C}$				o	o
F	-55~125 $^{\circ}\text{C}$					o

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

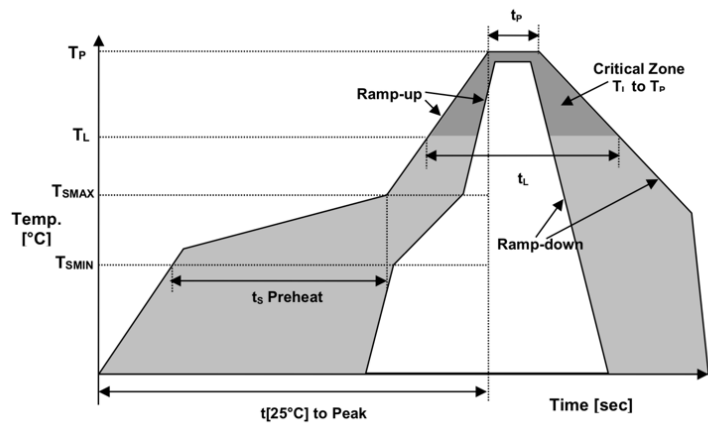
■ Outline Dimensions (Unit: mm) 外形尺寸

KV508D																			
KV708D																			
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■ Part Number Guide 产品编号

KV508D	-	27.000	-	100	-	33	-	C	-	30	-	NS
↓		↓		↓		↓		↓		↓		↓
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		25=2.5V		C: -40~+85°C		20 = ±20ppm		
5.0x3.2mm 8-pad		(In MHz)		100=±100ppm		33=3.3V		D: -55~+85°C		30 = ±30ppm		‘NS’:特殊要求
‘D’: 输出波形				150=±150ppm				E: -55~+105°C		50 = ±50ppm		
LVDS				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	2025.12.04	JZ