

时钟振荡器 Clock Oscillator: KD506D

Feature 特征

- Miniature 5.0x3.2mm package, ideal for space-constrained designs 小型 5032 尺寸，适合空间受限的设计
- Ultra-low phase jitter 0.2ps RMS from 12kHz to 20MHz 超低相位抖动
- LVDS differential output suitable for high-speed and low-noise applications 差分输出适合高速，低噪声的信号传输要求
- Support frequency range up to 1.5GHz, supports demanding high-speed application 宽频率范围，最高可到 1.5GHz
- Excellent for high-performance clocking in networking, communication, industrial, and computing systems 适用于网络通信，工业控制



General Specifications 规格参考

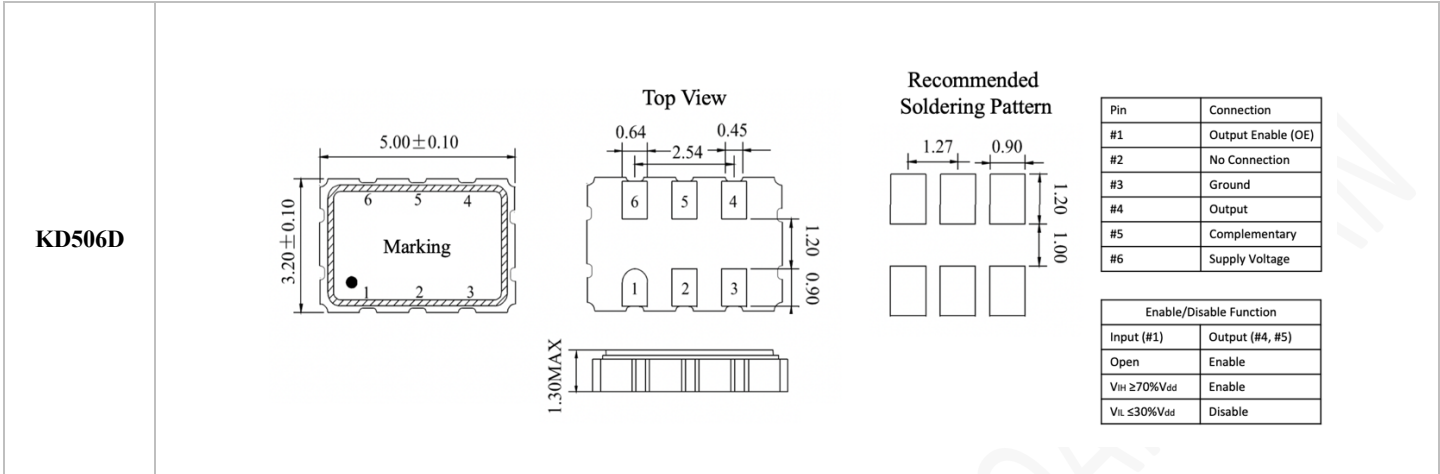
PARAMETER	性能参数	KD506D	
Frequency Range	频率范围	10MHz~200MHz	10MHz ~ 1.5GHz
Supply Voltage	供电电压	+1.8V/2.5V/3.3V (±10%)	+2.5V/3.3V (±10%)
Output Logic	输出波形	LVDS	
Frequency Tolerance	调整频差	±30ppm max	
Frequency Stability	温度频差	见下表	
Operating Temperature Range	温度范围	见下表	
Current Consumption	工作电流	68mA max	
Output Load	输出负载	100Ω between output and comp. output	
Start-up Time	起振时间	5ms max	10ms max
Duty Cycle	占空比	45~55%	
Rise & Fall Time	上升下降时间	0.8ns max	
Output Enable/Disable Time	启动/禁用时间	Enable: 10ms max Disable: 0.2μs max	Enable: 200ns max Disable: 50ns 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	
RMS Jitter	抖动	0.2~1.0ps (12KHz~20MHz)	
Storage Temperature Range	储存温度范围	-55°C ~ +125°C	
Aging Per Year	老化率	±3ppm ~ ±5ppm/year	

Frequency Stability 温度频差 VS Operating Temperature Range 温度范围

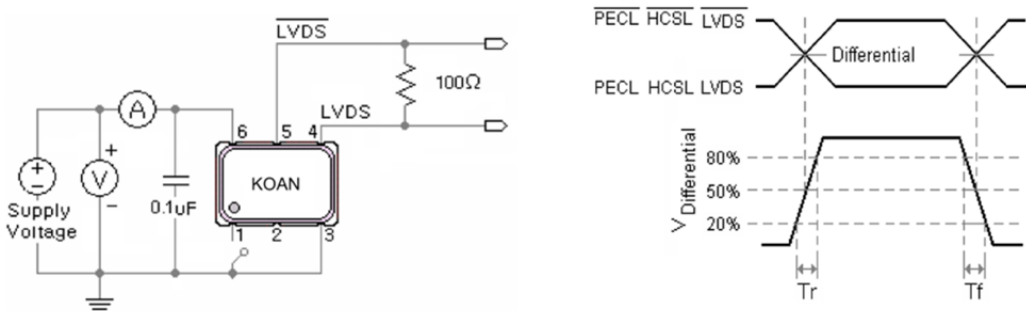
Temp. Code	Temp.\ppm	±10	±20	±30	±50	±100
B	-20~70°C	○	○	○	○	○
C	-40~85°C		○	○	○	○
D	-55~85°C			○	○	○
E	-55~105°C				○	○
F	-55~125°C				○	○

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



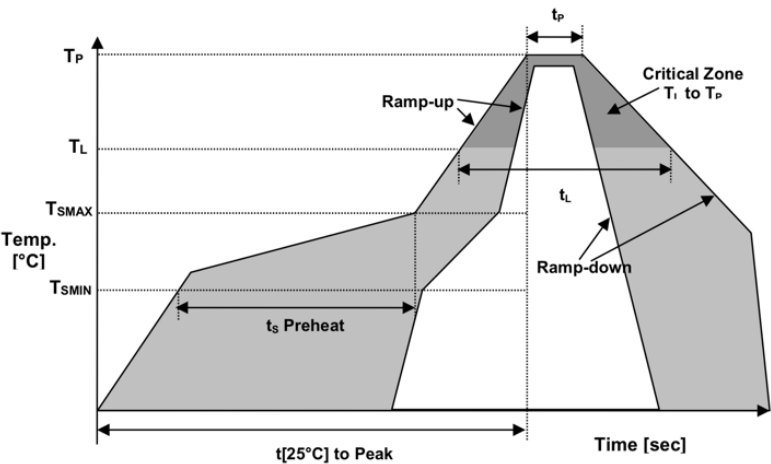
Test Circuit and Output Waveforms 测试电路图及输出波形



Part Number Guide 产品编号

<u>KD506D</u>	-	<u>20.000</u>	-	<u>33</u>	-	<u>C</u>	-	<u>30</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
‘KD’: 差分系列				B: -20~+70°C				10 = ±10ppm		‘NS’:特殊要求
‘506’:封装尺寸				C: -40~+85°C				20 = ±20ppm		
SMD 5.0x3.2mm 6 pad				D: -55~+85°C				30 = ±30ppm		
‘D’: 输出波形				E: -55~+105°C				50 = ±50ppm		
LVDS				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 $t[25^{\circ}\text{C}]$ to peak temperature	25度到最高温度时间	$t[25^{\circ}\text{C}]$ 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	2021.12.27	JH
1.0	2	Pin description	2022.06.20	JZ
1.1	1	Specs update	2024.03.19	JZ