

## 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	供给电压	+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	10ms max.	10ms max.
Duty Cycle	占空比	45~55% (f≤40MHz); 40~60% (f > 40MHz)	
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: 10ms max. Disable: 0.2μs max.
Output Logic High "1" Output Logic Low "0"	输出电平 高 输出电平 低	1.4V typ. 1.6V max. 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	±20	±25	±30	±50	±100
B	-20~70°C	○	○	○	○	○
C	-40~85°C		○	○	○	○
E	-40~105°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

**KD506D**

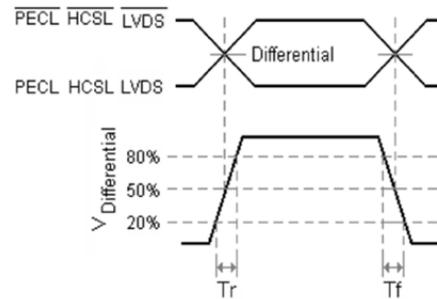
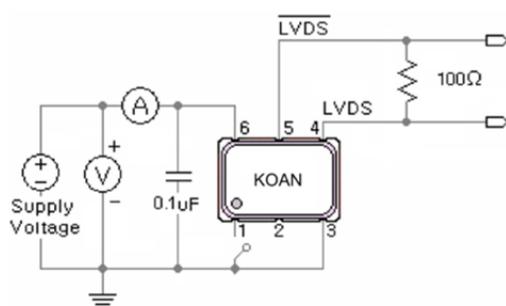
**Recommended Soldering Pattern**

Pin	Connection
#1	Output Enable (OE)
#2	No Connection
#3	Ground
#4	Output
#5	Complementary
#6	Supply Voltage

Enable/Disable Function	
Input (#1)	Output (#4, #5)
Open	Enable
$V_{IH} \geq 70\%V_{DD}$	Enable
$V_{IL} \leq 30\%V_{DD}$	Disable

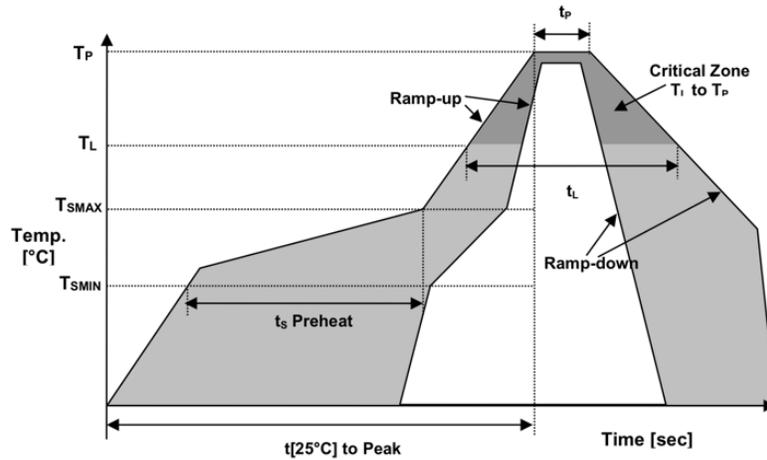
### Test Circuit and Output Waveforms 测试电路图及输出波形



### Part Number Guide 产品编号

<b>KD506D</b>	-	<b>20.000</b>	-	<b>33</b>	-	<b>C</b>	-	<b>30</b>	-	<b>NS</b>
↓		↓		↓		↓		↓		↓
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 ‘506’: 封装尺寸 SMD 5.0x3.2mm 6 pad ‘D’: 输出波形 LVDS		(In MHz)		18=1.8V 25=2.5V 33=3.3V		B: -20~+70°C C: -40~+85°C E: -40~+105°C F: -55~+125°C		10 = ±10ppm 20 = ±20ppm 30 = ±30ppm 50 = ±50ppm 100 = ±100ppm		‘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