

时钟振荡器 Clock Oscillator: KD256D

■ Feature 特征

- Miniature 2.5x2.0mm package, ideal for space-constrained designs 超小型 2520 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
- 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	KD256D
Frequency Range	频率范围	13MHz ~ 220MHz
Supply Voltage	供给电压	+1.8V/2.5V/3.3V ($\pm 10\%$)
Output Logic	输出波形	LVDS
Frequency Tolerance	调整频差	± 30 ppm 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	16mA typ.; 27mA max
Output Load	输出负载	100 Ω between output and comp. output
Start-up Time	起振时间	5ms typ.; 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: 0.2 μ s 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	0.2ps typ. (12KHz~20MHz)
Storage Temperature Range	储存温度范围	-55°C ~ +125°C
Aging Per Year	老化率	± 3 ppm ~ ± 5 ppm/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	-40~125°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

KD256D

Top view

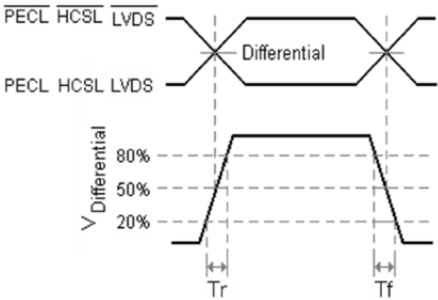
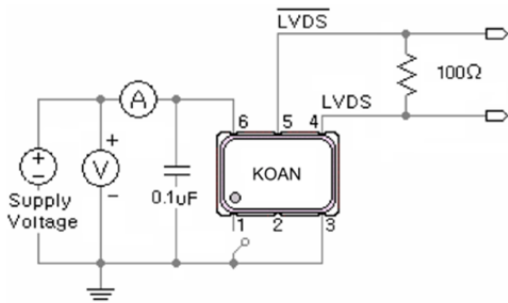
Marking

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

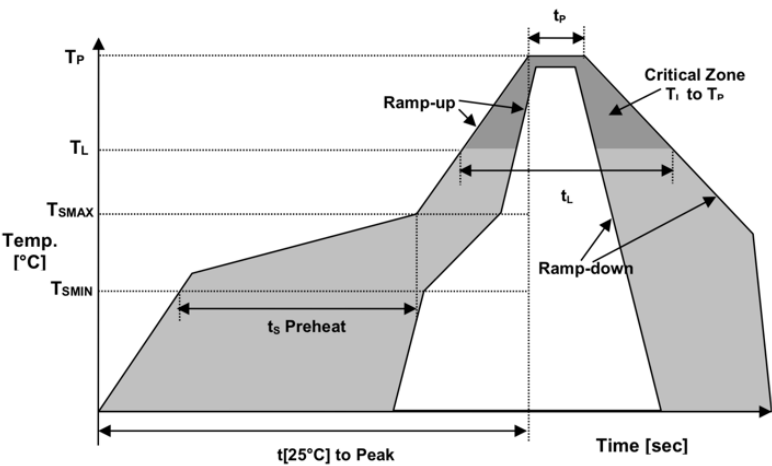
Test Circuit and Output Waveforms 测试电路图及输出波形



Part Number Guide 产品编号

<u>KD256D</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								10 = ±10ppm		‘NS’:特殊要求
‘256’:封装尺寸				18=1.8V		B: -20~+70℃		20 = ±20ppm		
SMD 2.5x2.0mm 6 pad				25=2.5V		C: -40~+85℃		30 = ±30ppm		
‘D’: 输出波形				33=3.3V		E: -40~+105℃		50 = ±50ppm		
LVDS						F: -40~+125℃		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