

## Clock Oscillator (时钟振荡器) - KD326D

### Feature 特征

LVDS output with miniature package with low phase jitter 0.2pS typ. LVDS 输出, 小封装尺寸低相位抖动振荡器



RoHS  
Compliant  
KOAN

### Applications 应用

Mobile communications, radar navigation, digital products, HD monitoring, precision instruments 移动通信, 雷达导航, 数码产品, 高清监控, 精密仪器等

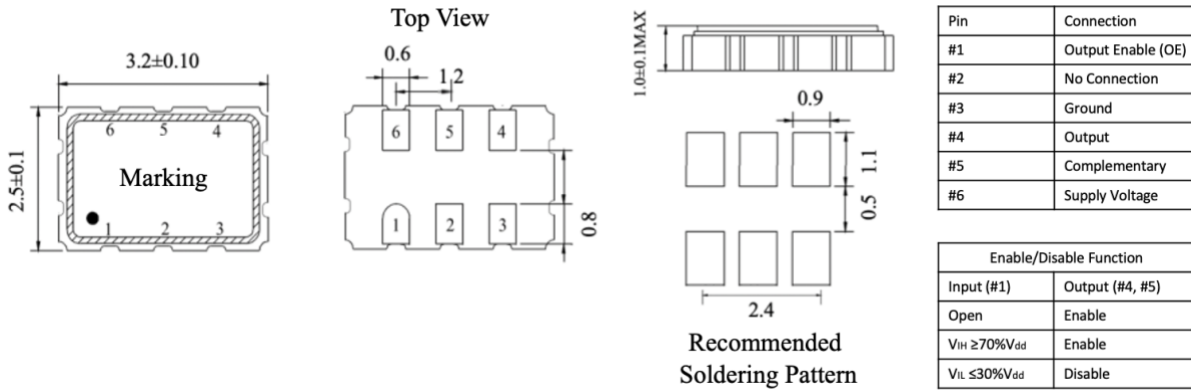
### General Specifications 规格参考

| PARAMETER                   | 性能参数    | KD326D                                 |  |
|-----------------------------|---------|--|--|
| 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    | 16mA typ.; 27mA max                    |  |
| Output Load                 | 输出负载    | 100Ω 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  | 0.2ns typ.; 0.5ns max                  |  |
| Output Enable/Disable Time  | 启动/禁用时间 | Enable: 10ms max<br>Disable: 0.2μs max | Enable: 200ns max<br>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 (12KHz~20MHz)    | 抖动      | 0.2ps typ.; 0.5ps max                  | 1.0ps typ. (12KHz~20MHz)               |
| Storage Temperature Range   | 储存温度范围  | -55°C ~ +125°C                         |  |
| Aging Per Year              | 老化率     | ±3ppm ~ ±5ppm/year                     |  |

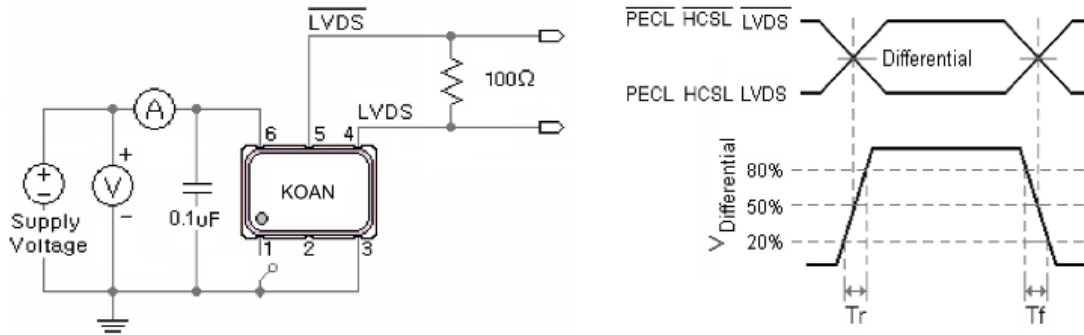
| Frequency Stability 温度频差 VS Operating Temperature Range 温度范围 |           |     |     |     |     |      |
|--|-----------|-----|-----|-----|-----|------|
| Temp. Code   | Temp.\ppm | ±10 | ±20 | ±30 | ±50 | ±100 |
| B  | -20~70°C  | ○   | ○   | ○   | ○   | ○    |
| C  | -40~85°C  |     | ○   | ○   | ○   | ○    |
| 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



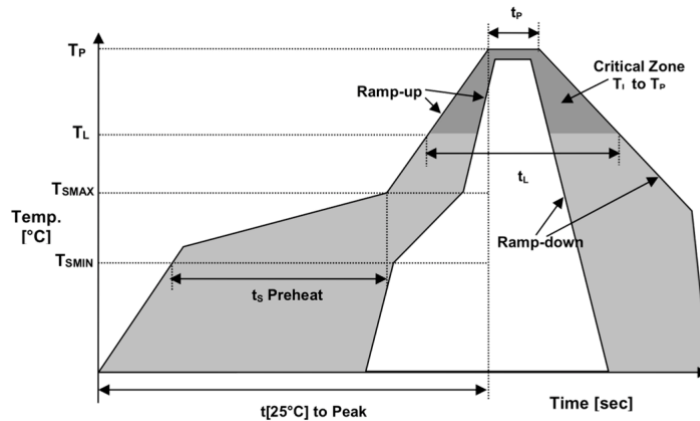
### Test Circuit and Output Waveforms 测试电路图及输出波形



### Part Number Guide 产品编号

|   |   |        |   |                               |   |  |   |   |   |         |
|---|---|--------|---|-------------------------------|---|--|---|---|---|---------|
| KD326D  | - | 20.000 | - | 33                            | - | C  | - | 30  | - |         |
| 封装  | - | 标称频率   | - | 工作电压                          | - | 工作温度   | - | 温度频差  | - | 特殊要求    |
| 'KD': 产品系列<br>K=KOAN D=差分<br>'326': 封装尺寸<br>SMD 3.2x2.5mm 6 pad<br>'D': 输出波形 LVDS |   |        |   | 18=1.8V<br>25=2.5V<br>33=3.3V |   | B: -20~+70°C<br>C: -40~+85°C<br>D: -55~+85°C<br>E: -55~+105°C<br>F: -55~+125°C |   | 10 = ±10ppm<br>20 = ±20ppm<br>30 = ±30ppm<br>50 = ±50ppm<br>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  |

## ■ Revision 版本

| 版本<br>Rev. | 修改页<br>Revise Page | 修改内容<br>Revise Contents | 日期<br>Date | 修改人<br>Reviser |
|------------|--------------------|-------------------------|------------|----------------|
| 1.0        | 2                  | Pin Description         | 2022.6.20  | JZ             |