

# Crystal Oscillator

## YSO120TK

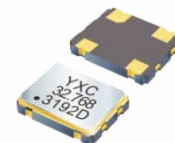


### Applications

- RTC

### Features

- Frequency: 32.768KHz
- Package Size: 1.6\*1.2, 2.0\*1.6, 2.5\*2.0, 3.2\*2.5, 5.0\*3.2, 7.0\*5.0mm
- Ultra Small SMD Seam Sealed Crystal Oscillator



## Specifications (规格参数)

Item	Symbol	Specifications
Nominal Frequency (标称频率)	$f_0$	32.768KHz
Supply Voltage (电源电压)	VDD	1.8V ~ 3.3V
Output Type (输出方式)	-	CMOS
Frequency Tolerance (频率偏差) (at 25°C)	$f_{tol}$	$\pm 10ppm$ , $\pm 20ppm$ , or specify
Output Load (输出负载)	$L_{cmos}$	15pF
Operating Temperature (工作温度)	$T_{use}$	-40~+85°C, or specify
Storage Temperature (储存温度)	$T_{stg}$	-55~+125°C
Frequency Versus Temperature Characteristics (频率-温度特性)	$f_{tem}$	$\pm 20ppm$ , $\pm 30ppm$ , $\pm 50ppm$ , or specify
Output Voltage (输出电压)	Voh	90%VDD Min
	Vol	10%VDD Max
Duty Cycle (占空比)	SYM	45~55%
Start-up Time (启动时间)	$t_{str}$	3ms Max
Phase Jitter [12 kHz ~ 20 MHz] (相位抖动)	tpj	0.7ps Max
Frequency Aging (老化) (at 25°C)	$f_{age}$	$\pm 3ppm/year$ Max
Tri-State	Enable (High Voltage or Floating)	70% of VDD Min
	Disable (Low Voltage or GND)	30% of VDD Max

## Current Consumption (消耗电流)

Supply Voltage (V)	32.768KHZ	
	7050/5032/3225	2520/2016/1612
1.8V	0.2mA Max	0.2mA Max
2.5V	0.3mA Max	0.3mA Max
3.3V	0.5mA Max	0.4mA Max

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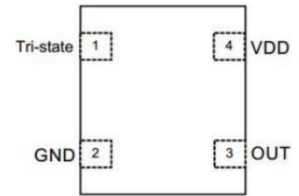
## YSO120TK



### Pin Dimension (脚位尺寸)

Pin	#1	#2	#3	#4
FUNCTION	Tri-state	GND	OUTPUT	VDD

### Pin Assignments



\*The picture on the right is only for PIN function description.

### Dimensions and Recommended Land Pattern (外观尺寸及推荐焊盘)

Dimensions (Unit: mm)	Recommended Land Pattern (Unit: mm)
<p>1.6*1.2mm</p>	
<p>2.0*1.6mm</p>	
<p>2.5*2.0mm</p>	

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<p>3.2*2.5mm</p>	
<p>5.0*3.2mm</p>	
<p>7.0*5.0mm</p>	
<p>Notes:</p> <p>1.A capacitor value-0.01uf~0.1uf or higher between Vdd and GND is required.</p>	

### Test Circuit (测试电路)

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### CMOS

