

Crystal Oscillator

YSO120TK



Applications

- RTC

Features

- Frequency: 32.768KHz
- Ultra Small SMD Seam Sealed Crystal Oscillator
- 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



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}	±10ppm, ±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}	± 20ppm, ± 30ppm, ± 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}	±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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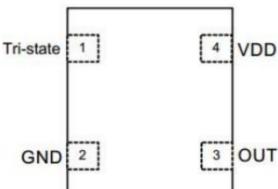
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Pin Assignments

Pin Dimension (脚位尺寸)

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



*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)

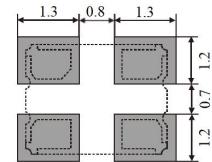
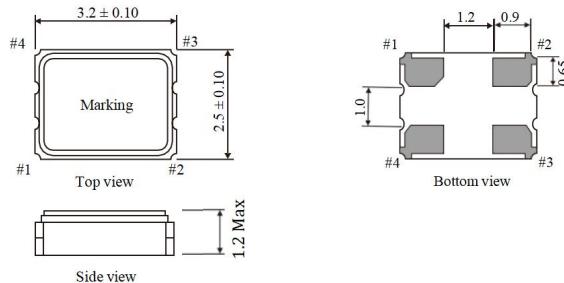
Dimensions (Unit: mm)	Recommended Land Pattern (Unit: mm)
1.6*1.2mm <p>Bottom view dimensions: #1: 1.65±0.1 mm, #2: 1.25±0.1 mm, #3: 0.3 Max mm, #4: 1.65±0.1 mm. Land pattern dimensions: Top row: 0.395, 0.3, 0.395 mm. Bottom row: 0.495, 0.5, 0.08 mm. Total width: 0.775, 0.5, 0.775 mm. Total height: 0.6, 0.2, 0.6 mm.</p>	
2.0*1.6mm <p>Bottom view dimensions: #1: 2.05±0.1 mm, #2: 1.65±0.1 mm, #3: 0.9 Max mm, #4: 2.05±0.1 mm. Land pattern dimensions: Top row: 0.475±0.1, 0.5±0.1, 0.475±0.1 mm. Bottom row: 0.57±0.1, 0.7±0.1, 0.1 mm. Total width: 0.775, 0.5, 0.775 mm. Total height: 0.675, 0.3, 0.675 mm.</p>	
2.5*2.0mm <p>Bottom view dimensions: #1: 2.5±0.1 mm, #2: 2.0±0.1 mm, #3: 1.0 Max mm, #4: 2.5±0.1 mm. Land pattern dimensions: Top row: 0.95, 0.78 mm. Bottom row: 0.95, 0.78 mm. Total width: 0.9, 0.95, 0.9 mm. Total height: 0.8, 0.65, 0.8 mm.</p>	

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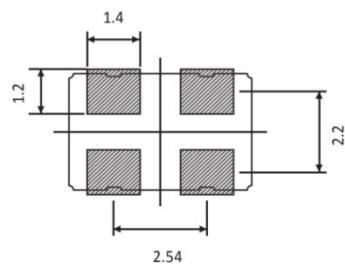
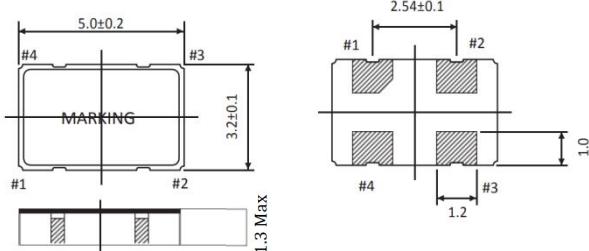
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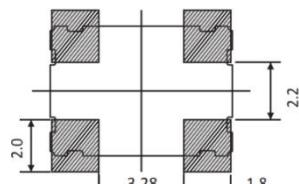
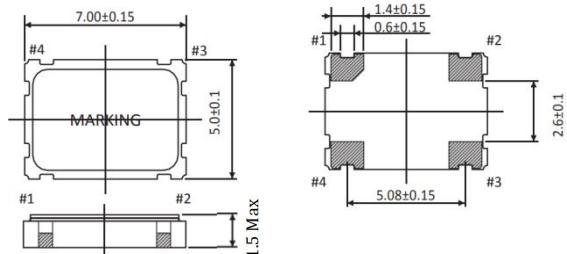
3.2*2.5mm



5.0*3.2mm



7.0*5.0mm



Notes:

1. A capacitor value 0.01uf~0.1uf or higher between Vdd and GND is required.

Test Circuit (测试电路)

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