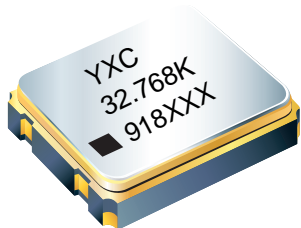




给您一颗快乐的“芯”！

# YSO120TK



## Features

- Package Size: 2.0\*1.6 2.5\*2.0 3.2\*2.5 5.0\*3.2 7.0\*5.0mm
- Frequency range: 32.768KHz.
- Ultra Small SMD seam sealed clock crystal oscillator units.
- Applications: WLAN, Bluetooth, RTC, DSL and other IT product.
- Tri-state function available

## Electrical Specifications

Item / Type	YSO120TK
Output Frequency Range	32.768KHz
Output Type	CMOS
Supply Voltage	1.8V ~ 3.3V
Oscillation Mode	Fundamental
Frequency Tolerance ( at 25 )	±10ppm, ±20ppm, or specify
Output Load	15 pF, or specify
Operating Temperature Range	-40~+85 °C , or specify
Frequency Versus Temperature Characteristics	± 20ppm, ± 30ppm, ± 50ppm, or specify
Storage Temperature Range	- 55 ~ + 125 °C
Voltage Vol ( Max. ) / Vol ( Min. )	90%Vdd min./10%Vdd max
Symmetry	45~55%
Rise ( Tr ) / Fall ( Tf ) Time	30ns Max.
Start-up Time	3 ms Max.
Supply Current	See Below
Frequency Aging ( at 25 °C )	± 3 ppm / year Max.

## Dimensions

PAD	#1	#2	#3	#4
FUNCTION	Enable / Disable	GND	OUTPUT	VDD

### Notes:

1. To maintain stable operation provide a 0.01uF to 0.1uF by-pass capacitor at a location as near as possible to the power source terminal of the crystal product( between Vcc-GND )

Top View

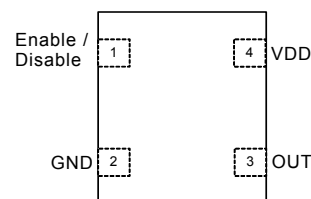


Figure 1. Pin Assignments

Package Size -- Dimensions(Unit:mm)	Recommended layout Pattern (Unit:mm)
2.0x1.6x0.80mm	



# YSO120TK

给您一颗快乐的“芯”！



Package Size -- Dimensions(Unit:mm)	Recommended layout Pattern (Unit:mm)
2.5x2.0x0.90mm	
3.2x2.5x1.00mm	
5.0x3.2x1.20mm	
7.0x5.0x1.30mm	



# YSO120TK

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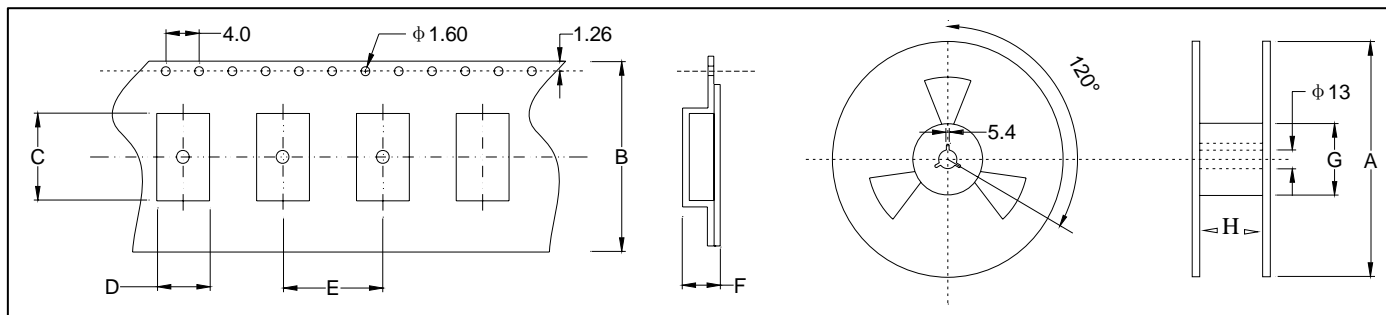
★ PART NUMBER GUIDE 部件号示例 e.g. OK252032.768KJBA4SL YSO120TK=2.5 × 2.0 SMD SEAM TYPE

Quartz Crystal Oscillator	Type Code	Size	Frequency (Hz)	Supply Voltage (V)	Frequency Stability Overall (ppm)	Output	Pin	Material	Operating Temp. Frequency Temp.
O	K	2016 2520 3225 5032 7050	32.768K	J	B	A	4	S	L

★ INPUT CURRENT 工作电流

Vdc=1.8~3.3V 15pF only		32.768KHZ	
Frequency	Size	7050/5032/3225	2520/2016
1.8V		0.2mA max	0.2mA max
2.5V		0.3mA max	0.3mA max
3.3V		0.5mA max	0.4mA max

★ TAPING SPECIFICATION (Unit: mm) 编带规格



Size	A	B	C	D	E	F	G	H
OSC-SMD7050 1000 pcs	180 ± 2.0	16.0 ± 0.3	7.50 ± 0.10	5.50 ± 0.10	8.00 ± 0.1	2.00 ± 0.1	61.0 ± 1.0	16.0 ± 1.0
OSC-SMD5032 1000 pcs	180 ± 2.0	12.0 ± 0.3	5.40 ± 0.10	3.60 ± 0.10	8.00 ± 0.3	1.70 ± 0.1	61.0 ± 1.0	12.0 ± 1.0
OSC-SMD3225 3000 pcs	180 ± 2.0	8.0 ± 0.3	3.40 ± 0.10	2.70 ± 0.10	4.00 ± 0.1	1.50 ± 0.1	61.0 ± 1.0	8.0 ± 1.0
OSC-SMD2520 3000 pcs	180 ± 2.0	8.0 ± 0.3	2.90 ± 0.10	2.40 ± 0.10	4.00 ± 0.1	1.20 ± 0.1	61.0 ± 1.0	8.0 ± 1.0
OSC-SMD2016 3000 pcs	180 ± 2.0	8.0 ± 0.3	2.30 ± 0.10	1.90 ± 0.10	3.85 ± 0.1	0.95 ± 0.1	61.0 ± 1.0	8.0 ± 1.0

★ REFLOW SOLDERING PROFILE 回流焊特性



Pb free reflow A	①	Preheat	160~180°C	120sec. max
	②	Primary heat	220°C	60sec. max
	③	Peak	260°C	10sec. max.

★ Test Circuit 测试电路



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